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Vol. LXI
No. 8

AUGUST
1946

The American City

Issued Monthly by the
American City Magazine Corporation
470 Fourth Ave., New York 16, N. Y.

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Subscription, $3 per annum to any part of the world
Single copies, 50c
Entered as second-class matter, July 20, 1910, at the Post Office at New York, N. Y., under Act of March 3, 1879.
Printed in U. S. A.

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THE MUNICIPAL INDEX AND ATLAS used in connection with the current advertisements in THE AMERICAN CITY, places local officials in the most favorable position to obtain all types of available equipment and supplies from manufacturers who desire to serve municipal government departments. THE MUNICIPAL INDEX AND ATLAS (723 pages) is published annually by THE AMERICAN CITY MAGAZINE CORPORATION, 470 Fourth Avenue, New York 16, N. Y.

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SERVICE REPRESENTATIVE *in the Business Office. She's there to help whenever you have questions about service, equipment or bills. An important part of her job is to see that all orders are filled in their proper turn.*

Speaking of Citations

Next time you call or visit a telephone office, see if you don't think the young women working there deserve a citation for competence and courtesy. They are doing a fine job.

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We're building and adding just as fast as we can get materials and make equipment. In the meanwhile, telephone people who serve you will keep right on doing their best.

And doing it with a friendly smile.

BELL TELEPHONE SYSTEM

The Atomic Bomb and the Future City

Spread Cities—But Stop Wars, Bombing Survey Urges

TO AVOID destruction, the surest way is to avoid war." This was the recommendation of the United States Strategic Bombing Survey after viewing the rubble of German cities. This warning is repeated in the Survey's report on "the Effects of the Atomic Bombings of Hiroshima and Nagasaki"* issued on June 19, 1946.

"As the developer and exploiter of this ominous weapon," says the report, "our nation has a responsibility, which no American should shirk, to lead in establishing and implementing the international guarantees and controls which will prevent its future use."

Urging decentralization as a precautionary measure, the report states:

"Hiroshima and Nagasaki were chosen as targets because of their concentration of activities and population. The population density of 45,000 or more per square mile of built-up area explains, in part, the high casualty rate. Significant therefore is the fact that the number of deaths at Nagasaki, despite the greater population density, were only half those at Hiroshima. The difference can be assigned in the main to the separation of the dispersed built-up pockets at Nagasaki, in contrast to the uniform concentration of the inhabitants in the heart of Hiroshima. The Nagasaki bomb thus dissipated much of its energy against hills, water, or unoccupied areas, while the Hiroshima bomb achieved almost optimum effect.

"The fate of industries in both cities, again illustrates the value of decentralization. All major factories in Hiroshima were on the periphery of the city—and escaped serious damage. At Nagasaki, plants and dockyards at the southern end of the city were nearly intact, but those in the valley where the bomb exploded were seriously damaged. So spread out were the industries in both cities that no single bomb could have been significantly more effective than the two dropped.

"Medical facilities, crowded into the heart of the city rather than evenly spread through it, were crippled or wiped out by the explosion. Only the previous removal of some stocks of medical supplies to outlying communities, and the bringing in of aid, enabled the limited medical attention of the first few days.

"These results underline those in conventional area raids in Germany, where frequently the heart of a city was devastated while peripheral industries continued to produce and where (particularly in Hamburg) destruction of medical facilities just at the time of the greatest need, hampered care of wounded.

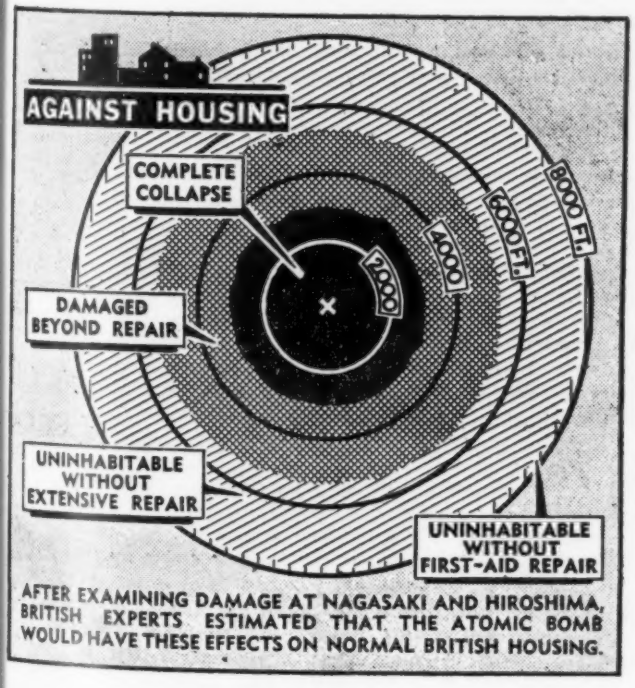
"The similar peril of American cities and the extent to which wise zoning has diminished it, differ from city to city. Though a reshaping and partial dispersal of the national centers of activity are drastic and difficult measures, they represent a social and military ideal toward which very practical steps can be taken once the policy has been laid down. In the location of plants, administrative headquarters, and hospitals particularly, the value of decentralization is obvious, and can be obtained cheaply if the need is foreseen.

"Reserve stocks of critical materials and of such products as medical supplies should be kept on hand. This principle of maintaining reserves, applies also to the capital equipment of the country. Key producing areas must not be served by a single source of power or channel of transportation. Indispensible materials must not come from processing plants of barely adequate capacity. Production of essential manufactured goods — civilian and military—must not be confined to a few or to geographically centralized points. The various regions of the country should be encouraged to approach balanced economic development as closely as is naturally possible. An enemy viewing our national economy must not find bottlenecks which use of the atomic bomb could choke off to throttle our productive capacity."

"Protective measures can substantially reduce the degree of devastation from an atomic bomb and the rate of casualties. Yet if the possibility of atomic attack on us is accepted, we must accept also the fact that no defensive measures alone can long protect us. At best they can minimize our losses and preserve the functioning of the national community through initial or continuing partial attack. Against full and sustained attacks they would be ineffectual palliatives."

Turn to page 75 of this issue for a discussion of "Planning Cities for the Atomic Age."

* Available in mimeographed form (45 pages) from the office of Chairman Franklin D'Olier, AAF Annex No. 1, Gravelly Point, Washington 25, D. C.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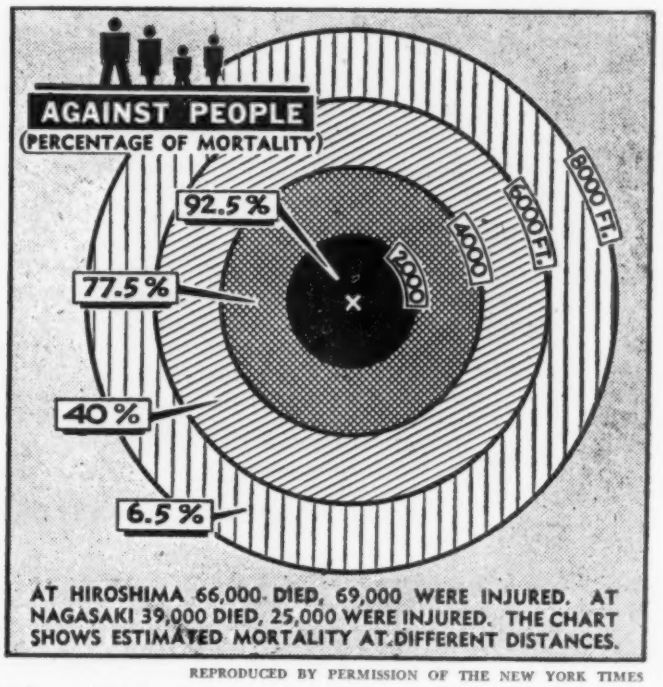

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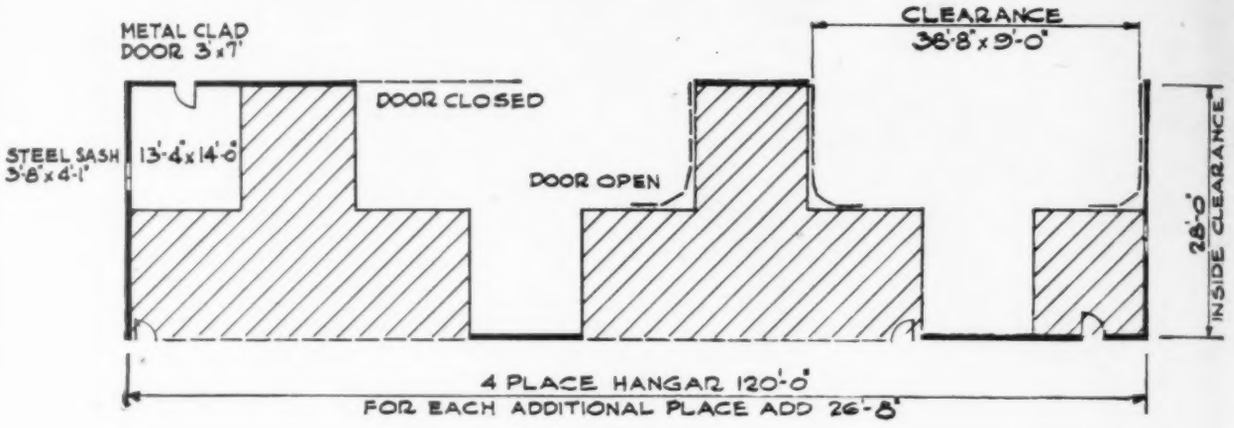
These graphs show the damage that can be inflicted by an atomic bomb.

LURIA STANDARD HANGAR T·40



SPECIFICATIONS

GENERAL

Hangar is an all steel shop fabricated structure furnished complete with anchor bolts, erection bolts and nuts, sheet metal fasteners and miscellaneous hardware.

Doors consist of prefabricated sections. One hinged leaf on each jamb swings in. Balance of sections which are hung on overhead track with self-adjusting spring hangers are hinged together parting at the center and rolling back inside hangar. One end leaf in each set is provided with a lock. All other sections are locked from the inside with cane bolts.

DESIGN

Live load—30 P.S.F. on horizontal projection of roof reduced to 22.5 P.S.F. for roof slope of 1 to 4.

Wind load — 20 P.S.F.

DRAWINGS

Foundation plans for average soil conditions, bill of material and complete erection diagram furnished with hangars.

MATERIALS

Frame—fabricated from rolled structural sections.

Roof — 22 gauge corrugated steel sheets, galvanized and bonderized.

Siding — 24 gauge corrugated steel sheets, galvanized and bonderized.

Doors — 18 gauge cold formed steel, bonderized. Provision can be made for fixed glass panel in each leaf if required.

Sash — single unit without glass furnished for each end as indicated. All wall framing is fabricated to accommodate additional standard sash in single or multiple units.

Partitions — various types available but not included.

PAINTING

Structural steel, sash and metal clad doors—one shop coat.

Roofing, siding and hangar doors — one coat baked on.

Specifications of larger units **T·45** *and* **T·54** *available upon request.*

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Our Municipal Notebook

The Place of Muncipalities in Modern Aviation

PHOTO BY GLOBE AIRCRAFT CORP.

Development of municipal airports will encourage use of private planes like the new Swift above.

PHOTO BY GLENN L. MARTIN CO.

Commercial aviation involving such giants as Northwestern's luxury liner has far outstripped private flying.

MUNICIPALITIES must literally lift their horizons to include the vast new field of flight if they would not drop behind a world advancing into the air age. The two trim ships above symbolize prominent aspects of aviation: private flying and commercial airlines traffic, both of which must grow in accordance with their capacities for public service.

Unlike the automotive industry, which first flourished on the private car, aviation is before the public because of the commercial plane. Private flying is trailing in this transportation category. To bring the private plane into the utilization of which it is capable, adequate landing and hangar facilities must be available at reasonable costs. Municipalities are in a position to take the initiative in providing these facilities.

Many cities throughout the country have facilities for private flying, and others are looking into the matter and making plans. An outstanding example of municipal interest is the airport owned and operated by Morristown, N. J. The field is being developed almost exclusively for private flying. Mayor Clyde Potts, who has worked on the project for a number of years, is of the opinion that private flying can support a large municipal airport without landing fees or prohibitive costs for hangar rental and services. As a result, the field is now used by more than 300 student pilots and aircraft owners from the Morristown area.

When other cities begin to follow the lead set by farsighted men like Mayor Potts, private planes such as the new all-metal 125-horsepower Swift shown at the left above will supplement the commercials giants like Northwestern's 40-passenger high-speed luxury airliner shown at the right. There is an important role in aviation awaiting the progressive municipality.

More Courtesy Fewer Accidents

IN SUPPORT of the National Safety Drive, the *Nassau Daily Review-Star*, Hempstead Town, Long Island, N. Y., is conducting an advertising and publicity campaign in its own columns, using the theme that safety on the highways and accident prevention cannot be fully realized unless drivers adopt a courteous attitude toward other motorists and pedestrians.

The campaign was under consideration last fall as an independent Hempstead Town move against the rising accident rate. It was finally coordinated with the National Safety Drive.

The selection of the "Courtesy" theme as a corrective measure is an outgrowth of the Hempstead Town Courtesy and Cooperation campaign to soothe wartime tempers and restore courtesy as a factor in retail trade relations.

Handling Minority Problems

SO-CALLED "race riots" in some American cities revealed that official discrimination against a partisan group involved in the riots added fuel to the fires and made bad matters worse, Joseph T. Kluchesky, retired chief of the Milwaukee, Wis., Police Department, has pointed out.

In other communities where similar disorders occurred, law and order were restored only because officials maintained an impartial and understanding attitude, fully protecting the rights of all. Fortunate, indeed, is the municipality which has officials who recognize the rights of minorities in the face of powerful opposition and the rage of partisan groups, Mr. Kluchesky declared.

Experience shows that in some communities complacence of the police has encouraged the abuse and persecution of minority groups and has led to unnecessary disorders of considerable magnitude, he noted, adding that where these have occurred, the police failed in their primary responsibility of maintaining law and order.

"The problem is not solved, nor is the obligation of the police fully discharged, by dealing with violence when disorders do occur. It is the duty of all police departments, even before there are any signs of open violence, to teach their personnel through police training methods, the importance of constantly exhibiting an attitude of fairness and respect for all groups in the community. A properly instructed and trained personnel can often prevent violent outbreaks between groups."

The efforts of the police to eradicate or reduce racial or religious prejudices in a community should be a part of the public relations program of the Police Department.

JONESBORO HAD A POWER PROBLEM

...this

TANK

solved it!

★ Prior to 1940, when the 1,000,000-gal. Horton spheroidal tank shown above was installed in the Jonesboro, Ark. water system, the greatest demand for power for pumping water coincided with domestic peak loads on the electric system. This placed a strain on the electric power system and required additional generating capacity to handle peak pumping loads. After the installation of the elevated tank, Jonesboro was able to do a larger proportion of its pumping during the valley load periods on the electric plant. This resulted in improved efficiency and the savings were more than sufficient to pay for the maintenance and depreciation of the tank.

Other benefits Jonesboro is deriving from this elevated tank include a Class 1 rating from the Arkansas Fire Prevention Bureau and more uniform water pressures throughout the system.

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Chicago 4 ..... 2127 McCormick Bldg.
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Philadelphia 3 ..... 1616-1700 Walnut St. Bldg.
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Washington 4 ..... 703 Atlantic Bldg.
Detroit 26 ..... 1501 Lafayette Bldg.

Plants in BIRMINGHAM, CHICAGO and GREENVILLE, PENNSYLVANIA

Water Supply and Treatment

St. Louis Cleans Its Settling Basins with Tractor Bulldozers

HERCULES turned the rivers of Alpheus and Peneus to wash the Augean stables but St. Louis' Water Commisisoner Tom Skinker feels that action as radical as this would be a waste of good water, particularly when other more efficient methods are available. Of course, cleaning four 30-mg, 400- by 600-foot settling basins is slightly different from flushing out a stable anyway, and the work ought to be done a little more thoroughly. At all events, St. Louis uses two Case model SI industrial tractors equipped with bulldozer blades to stir up the sediment and help flush it out. These tractors operate continuously in a slurry of sediment and water deep enough so that some is thrown over the engine by the fan. The work is hard on rear tires because of excessive slipping, but the use of crawler tractors proved impractical because they damaged the bottom and caused the reservoir to leak. Each year the reservoirs collect approximately 200,000 cubic yards of sediment which cost the city an average of 20 cents per yard to remove.

The total quantity of suspended solids and dissolved matter removed from the water was 351,467 tons. This averaged 963 tons per day. By the use of tractor bulldozers, the St. Louis Water Division has been able to reduce the number of men working from thirty to six and the time required from ten to three days.

Waukesha Water Department Shares Profit with Employes

GOOD OPERATION pays dividends to the operators at Waukesha, Wis., under the plan which has been used by this city for the past two years. According to the American Municipal Association, this plan boosts the pay of water utility employes from 3.6% for the highest paid to about 8% for the lowest-paid personnel. The plan provides that no employe receive more than $200 of the surplus profits annually. The amount divided among utility employes is 4% of the total net income for the year.

The program was recently upheld by the Wisconsin Public Service Commission, which ruled that it did not feel the plan would materially affect the rate structure.

It Depends on Where You Taste It

THE AVERAGE consumer's objection to tastes depends not only on what the taste is but where he tastes it. This was pointed out recently by W. A. Welch, of the Industrial Chemical Sales Division, of the West Virginia Pulp and Paper Company, in a paper delivered before the Virginia Section Meeting of the American Water Works Association at Roanoke, Virginia, and published in this company's *Taste and Odor Control Journal.*

People have learned to accept characteristic tastes and odors in characteristic places, stated Mr. Welch. They will relish fresh cucumber in a salad, but they cannot be depended upon to enjoy the cucumber taste of synura in a water supply. Nothing tastes more like green algae than watermelon. However, the flavor is delicious when found in watermelon, but is extremely objectionable when it gets into the water supply distribution system.

The average consumer expects the water that he uses to have neither taste nor odor if it is pure. His natural reaction is that if the water has a bad taste or odor, it is contaminated.

UPPER LEFT: *Overboard goes one of the St. Louis tractors, helped along by a McMyler Interstate crane with a 45-foot boom. The crane is part of the equipment owned by the Water Division.*

LOWER LEFT: *The operator releases the tractor and gets it ready for its attack on the accumulation of sediment.*

BELOW: *Away go the tractors like a pair of energetic ants. Their task is to stir up the sediment, making it easier to flush out of the basins. Their use has enabled the St. Louis Water Division to reduce sludge removal costs to less than 20 cents per cubic yard.*

DORR

Multdigestion System

gives you 3 big advantages

Advantages attending the use of this time-proved system of two-stage sludge digestion number a dozen or more—have led to several hundred installations, serving many millions of people both here and abroad.

Here, however, are the "Big Three" advantages—the major determinants in the continued wide-spread selection of a system that we have maintained in a state of continuous evolution and betterment ever since its inception many years ago.

• CAPACITY

Maximum sludge-digesting capacity per cu. ft. of a total tank volume.

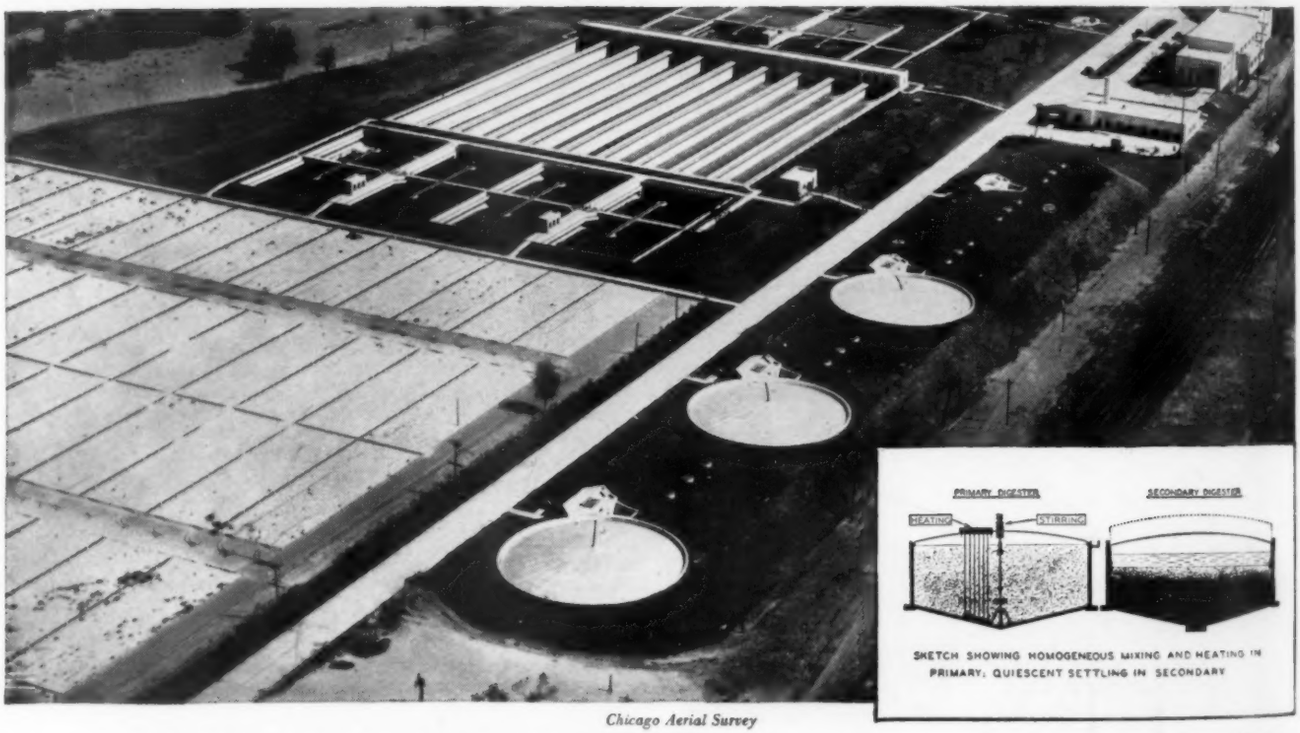
• REDUCTION

Average reductions of 40 to 50 percent of total solids; 55 to 65 percent of volatiles.

• GAS PRODUCTION

Average gas production of 15 to 20 cu. ft. per pound of volatile destroyed—1/3 or more greater than in non-stirred primary digestion tanks.

Write for complete information, including performance data under various conditions and with all types of sewage sludge.



Chicago Aerial Survey

Aerial view of three 90 ft. Dorr Multdigestion Systems at Gary, Ind. Fixed-cover primary tanks installed below ground level, alongside protruding, movable covers of secondaries, which appear as discs. *Consulting Engineers:* Alvord, Burdick & Howson, Chicago.

SKETCH SHOWING HOMOGENEOUS MIXING AND HEATING IN PRIMARY; QUIESCENT SETTLING IN SECONDARY

1652

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RESEARCH ENGINEERING EQUIPMENT

ADDRESS ALL INQUIRIES TO OUR NEAREST OFFICE

Sewerage and Sewage Treatment

What the St. Louis Garbage Grinding Station Shows

Here are some of the men in charge of garbage cleaning and disposal in St. Louis. Left to right are: Ernest H. Paffrath, sewer commissioner; Henry W. Dawson, street commissioner; Carl Hirschhausen, superintendent, shop maintenance section; and George W. Warrick, superintendent of the refuse section.

CERTAIN POINTS have become evident in the operation of St. Louis' two garbage grinding stations located at Fifteenth Street and Forest Park, using Williams and Jeffrey grinders respectively, both equipped with Dodge conveyors. The points take on added emphasis since St. Louis has been operating these stations long enough to have arrive at supportable conclusions: (Story on page 99 of this issue).

Duplicate Stations. The advisability of duplicate equipment is always as sound as any engineering principle can be. Garbage is an unsanitary product that demands prompt disposal. With one plant broken down, the other can care for the garbage grinding demands without great difficulty.

Operating Cleanliness. The most noticeable things about the stations are the promptness, neatness, and cleanliness of their operation. The disposal is quick, automatic, and clean. These are important factors in garbage and refuse disposal.

Effect on Sewers. Contrary to the opinion that has been expressed occasionally, ground garbage does not in itself clean sewers. In St. Louis, the garbage clogs one of them. In our opinion, the rational manner of analyzing the garbage flow characteristics would be to study the amount of water to be added. If the garbage-sewage combination does not contain over 1% solids, it ought to flow in a normal collection system without much trouble. The St. Louis practice of putting a station over a main interceptor is a practical method of eliminating difficulties.

Effect on Collections. Although St. Louis officials have not made detailed analyses of this, the benefits are there. Trucking costs are always an important factor, and when such a station can be located in a relatively convenient spot instead of on the outskirts of the city, the economies are, of course, great.

Disposal Costs. St. Louis disposal costs are a bit obscure, because the operation of the grinding stations are tied in with the sale of a certain percent of the garbage to farmers for hog feeding. However, the costs appear to be less than $0.35 per ton of garbage going through the station. This, of course, does not include any additional charges for sewage treatment, since St. Louis does not have a sewage treatment plant. The most important effect on the treatment process seems to be in regard to adequate digestion tanks.

Formula for Calculating Industrial Waste Charges

HERE IS A formula developed by S. R. Wright, Head of the Civil Engineering Department, A & M College, College Station, Texas, and published in the *Texas Engineer*. He developed it to compute the charge for handling industrial wastes in the average sewage treatment plant. The formula goes as follows:

$$F = \frac{300 + R(S - 150) + (BOD - 200)}{300}$$

F is the factor by which the volume rate is multiplied. R is the ratio of cost of treatment to the total cost of operation of the sewerage system, and S is the suspended solids in the industrial waste.

Advocates Larger Peacetime Army Sanitary Corps

AN ADEQUATE peacetime sanitary engineering organization for the army and navy is advocated by W. A. Hardenbergh, editor of *Public Works* magazine, New York, former colonel in the Sanitary Corps, and director of the sanitary engineering division, who spoke at the spring meeting of the American Society of Civil Engineers in Philadelphia.

Mr. Hardenbergh's statements lent force to the position taken by the Society's Board of Direction at its annual meeting in New York in January, when it adopted a resolution opposing a War Department proposal to merge the Sanitary Corps with the Medical Department. The proposal would restrict sanitary engineering officers to those of the rank of major and below, and impose age and grade restrictions on officers to be commissioned.

Industries Ease New Brunswick Sewage Costs

THE COST of of treating the sewage from New Brunswick, N. J., heavily polluted by strong industrial wastes, has not been a great burden on the general taxpayer since the city has established its charge for industrial waste treatment. This charge, established in 1944, is based on flow, suspended solids, and chlorine demand according to the following schedule:*

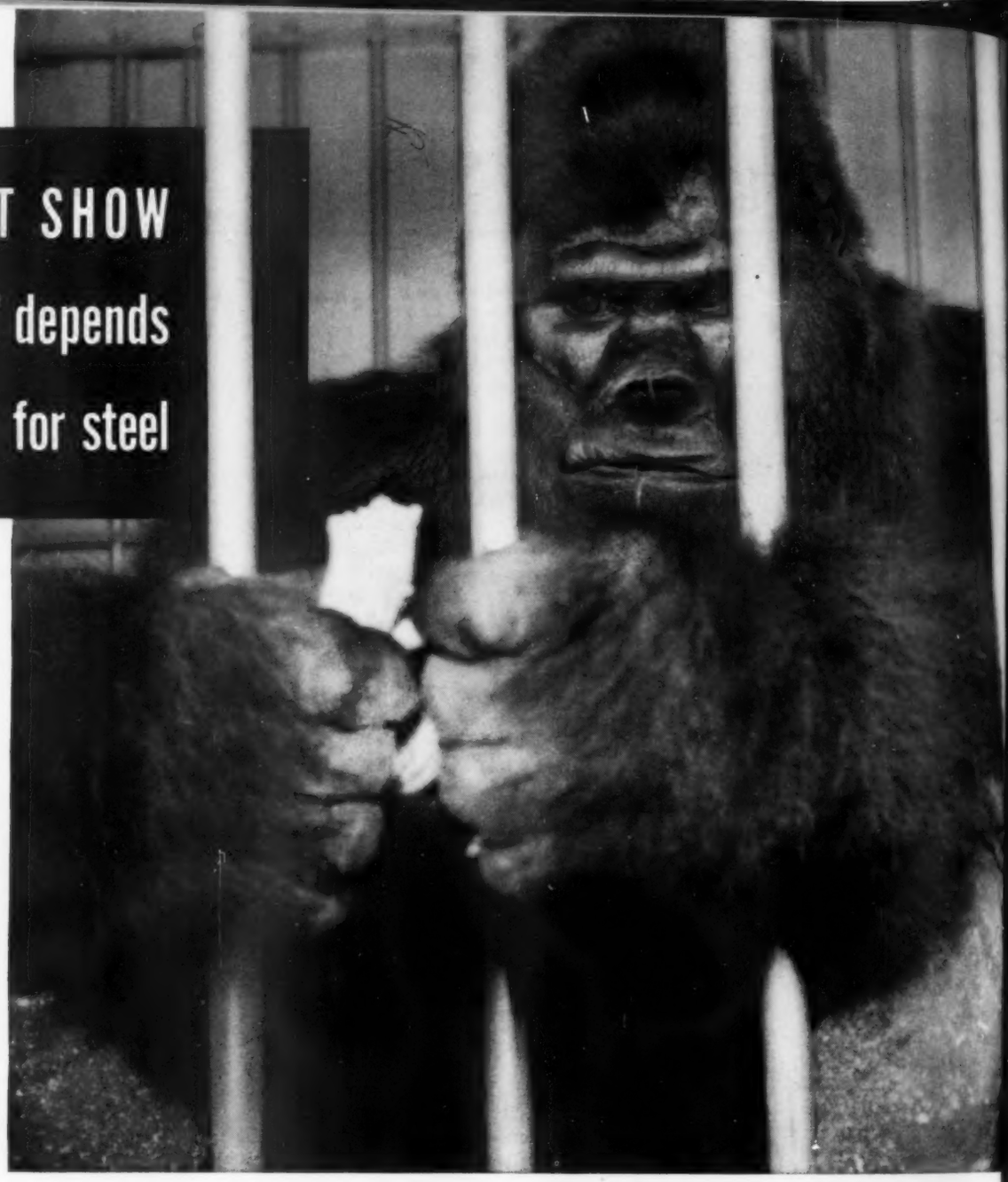
Flow	$22 per million gallons
Suspended solids	$5 per ton
Chlorine demand	$5 per 100 lbs.

According to Chester W. Paulus, mayor of New Brunswick, speaking before a recent meeting of the New Jersey Sewage Works Association, acceptance of this charge by industry has been encouraging. One of the larger industry's charges for the years since the ordinance was passed has been $4,987.50, $5,287.50, and $5,205. One of the smaller industries charges for the years has been $10, $19, and $25. Collections are prompt and 100% complete.

The manner in which the charges to industry are carrying the financial load may be measured best by comparing it with the 1940 sewage treatment costs. At that time the city's budget was $48,045.55. In 1941, increased industrial wastes had boosted this to $74,617.19 and 1944, the operating budget went to $99,644.30; however, revenue from industry cut this to $68,283.87. And in 1945, with an operating budget of $103,795, the city was required to furnish only $58,067, with the charges to industry making up the balance.

* See THE AMERICAN CITY, April 1944, page 57, for details of the ordinance.

"GREATEST SHOW ON EARTH" depends on Ryerson for steel



Photograph courtesy Ringling Bros. and Barnum & Bailey Circus.

Even the circus needs steel from stock, not only bars but structurals, tubing and reinforcing steel. All are products that Ringling Bros. and Barnum & Bailey secure from Ryerson stocks.

Whatever *your* business and whatever *your* requirements, you'll also find the nearby Ryerson plant a time-saving steel source. While many sizes are missing because of the steel shortage, stocks are improving daily. And often, when a needed steel is not available the Ryerson salesman can suggest a practical alternate.

Combined with growing stocks, Ryerson facilities for cutting, bending, threading, riveting and punching, help to assure prompt delivery of steel exactly as needed. Today we cannot say, "every size of steel in stock for immediate shipment." But, all things considered, we can give surprisingly prompt, dependable service on many products.

Another advantage of Ryerson steel service is the strategic location of the eleven Ryerson plants. Steel needed for a distant operation can be ordered from the plant near your headquarters and shipped from the plant near your job. Why not take advantage of this extra service, at no extra cost, next time you need steel? Phone, wire or write the nearest plant.

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Street Cleaning and Snow Removal

The Montrose Leaf Packer

The Montrose, Colo., leaf-packer, which helps City Manager Dwight D. Dilworth collect five times as many leaves per truckload.

NIAGARA ALKALI CO. PHOTO

OUT IN MONTROSE, Colo., acting city manager Dwight D. Dilworth gets five times as many leaves per truckload with his homemade leaf-loading arrangement. Furthermore, with his arrangement, two men can load more than twice as many leaves as six can by hand.

The loading device utilizes a 6-in. fan, similar to the units used on ensilage cutters, powered by a 4-hp Briggs and Stratton motor. A long pipe with a large funnel serves as the intake while the discharge end consists of a 6-in. pipe with a long radius elbow. Mr. Dilworth is experimenting with a flexible pipe that he feels should work better than the solid length of pipe.

The blower and its motor are mounted on a 3-by-12-in. plank platform that hangs on the side of the truck supported by a pair of strap-iron supports. In this way the unit can easily be removed from one truck and mounted on another. The loading platform of each truck has been built up with a 4-ft. extension making appoximately 100 cu. ft. available for loading. The loading body is covered with burlap and is relatively dustproof in construction, thus making the unit a kind of a giant vacuum cleaner.

"The only operating difficulty that we have had with it whatsoever," Mr. Dilworth states, "came from small rocks that the men tried to pick up with the leaves. They have learned to be careful of this, however; but before we learned to be cautious, we had to straighten the fan blades two or three times after the rocks had damaged them."

Wet leaves, Mr. Dilworth warned, also cause difficulty because they tend to clog the fan.

Billings Clears Snow Mechanically

AN 18 in.-deep snowstorm that fell one year ago last January convinced Billings, Mont., that it should have something more than manpower to remove snow from its streets. This snowfall, Mayor H. E. Biddinger says, "gave us a difficult street condition."

In this emergency, the Billings Public Stockyards Co., loaned the city a Trackson Traxcavator with a snow bucket attachment. Coupling this with a diesel-powered auto patrol, the city first graded the snow to the center of the street going down one side of the street, then down the other, thus opening a traffic lane. Then the Traxcavator went into action to clear the center of the street.

It took only one hour for the auto patrol to cover the 23 downtown blocks and three minutes to load each truck. This prompt and businesslike operation attracted much attention and produced favorable comments.

As a result of the 18-in. snowfall emergency of January 1945, Billings decided to acquire its own tractor with an elevating bucket. Last winter found the city ready to swing solidly into action when the snowfall arrived. The city makes use of the unit throughout the year. In the summer it is used for street construction and maintenance as well as to cover garbage and refuse with dirt at the city dump.

After the packed snow is windrowed into the center of the street in Billings, Mont., it is tackled with a Trackson Traxcavator. This equipment sees plenty of use in the summer. Its duties range from maintaining the city dumps to various types of street maintenance operations.

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WELL WATER SYSTEMS
VERTICAL TURBINE PUMPS

Aviation and Airports

The Oakland Airport Is Mustered Into Civilian Service

Aerial photo showing the relation of the Oakland municipal airport to the cities of the San Francisco Bay area. The San Francisco-Oakland and Golden Gate bridges can be seen in the distance at the extreme left. The dotted lines show the future development of the airport and the projected harbor facilities on San Leandro Bay as outlined by the Oakland Board of Port Commissioners in its master plan for the future.

THE Oakland Municipal Airport, located on the east side of San Francisco Bay at Oakland, Calif., and operated by the Oakland Board of Port Commissioners, has returned to civilian status. During the war, the operational area was greatly expanded. The airport field was widened about 1,000 feet by dredge filling along the San Francisco Bay shore and on this widened section there was constructed a 6,200-foot heavy-duty runway, parallel to the existing 5,200-foot east-west runway, and taxiways were constructed to serve both runways.

The Board of Port Commissioners' master plan for the airport provides for a total area of about 2,400 acres, of which 1,700 are for operations and about 700 for aviation and allied industries. The operations area will ultimately have three sets of 10,000-foot parallel runways. At present the operational area covers about 900 acres and there are two parallel east-west runways having lengths of 5,200 and 6,200 feet, one north and south runway 5,500 feet long, and one northeast-southwest runway 3,800 feet long.

Self-Supporting Airports

AIRPORT operation on a self-sustaining basis is the aim of many cities, according to the American Municipal Association.

New York City's new airport authority is expected to revise virtually all of its leases with the 13 airlines at La-Guardia Field, as well as some of the leases at still-unfinished Idlewild airport. Authorities hope to boost rentals appreciably. Re-examination of all leases at Chicago's airport was decided on recently.

Dayton, Ohio, expects to realize some $30,000 annually from rental of four hangars at its municipal airport to private concessionaires. At the Salem, Ore., airport—recently released by the army—$200 yearly fees are now being levied on commercial operators. Hangar rental has been fixed at 40 cents a month per foot of wingspread.

New rate systems covering private flying schools at municipal airports are generally more comprehensive. Emporia, Kans., flying instructors now pay a $10 fee for the first plane and $5 for each additional plane based on the local field plus storage rates. A 1% levy is made on the purchase price of each airplane sold at Emporia, and office space is rented on a floor area basis to private operators. Louisville, Ky., recently put into effect a new tax on commercial aircraft.

Some smaller cities are signing contracts granting private enterprise complete operation of municipal aviation facilities. A new Eldon, Mo., contract, for example, provides for a ten-year lease of the city airpark with options to renew, at an annual rental of $300 plus a 2 cents per gallon royalty on aviation fuel sold.

The Eldon contract is technically "non-exclusive" to allow the city to fulfill requirements for federal airport aid. It also provides for employment of a full-time manager, and guarantee by the operator of service, flight training, and equipment at fair prices.

Commission to Manage Worcester Airport

A SEVEN-MAN airport commission will manage the Worcester, Mass., Airport. This commission will have complete charge of every function, including the selection of a manager, the general dictation of policies, and the granting of concessions.

The Worcester Airport, unique because it was constructed without federal aid, was recently dedicated and is now in service (see THE AMERICAN CITY, April 1946, page 87). However, construction of airport lighting is still being improved, and a new rotating beacon is expected shortly.

An Airport "System"

A METROPOLITAN area should have an airport system consisting of several airports designed to receive differing types of air traffic rather than a single large airport. This opinion was expressed by S. E. Travis, Jr., Superintendent of Airports, Region 4, of the Civil Aeronautics Administration, in an address before the Citizens Conference on Planning, Dallas, Texas.

The airport system should consist of port facilities to care for the transport planes requiring long runways and substantial pavement for their landings and take-offs. It should be able to care for scheduled operations, multi-engined planes flying in daylight or darkness and non-scheduled personal aircraft.

Preparation of a master plan will permit planning for an airport for scheduled traffic and an "airpark" for the unscheduled. A small airport or airpark, he feels, should be as great a civic asset as a park or golf course in providing open space around suburban developments. Experience indicates also that the small airplane causes less disturbance than normal street traffic and therefore should not be a nuisance. The danger of damage to buildings from falling airplanes, statistics show, is also remote.

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Public Safety

Firemen Come to the Rescue in Elmira Flood

An American La France engine pumping flood waters from the Elmira, N. Y., city hall.

DURING THE spring flood, greatest in the city's history, Elmira, N. Y., firemen found themselves called upon to reverse their usual procedure and pump water out of instead of into buildings. The accompanying photograph shows a pumping engine dewatering the city hall in an effort to cut down on damage to valuable records stored in the basement.

The flood occurred on the morning of May 28 when the Chemung River, which flows through the center of the city, reached a height 2½ to 3 feet greater than ever before. Because the flood occurred during daylight hours, resulting damage to property and injury to persons were held to a minimum. "Had it been at night, the loss of life probably would have been tremendous," City Manager Ralph D. Klebes commented.

In 1941 the United States Army Engineers started a flood-control program, which was discontinued late in 1942 because of the war. "If the work could have been carried out, there is every reason to believe that despite the height of the water, there would have been no serious damage in the community," Manager Klebes maintains. The damage to property and stocks of merchandise in stores was heavy.

Safety Campaign Plan

A SAFETY campaign for the entire community is outlined in the booklet, "Safety Is the Idea," compiled as a public service by the Grote Manufacturing Company, Inc., of Bellevue, Ky., makers of Grote Fireball safety signs and markers.

To effect a complete plan for such a campaign, it is necessary to enlist the aid of all the following: newspapers, local radio stations, transportation facilities, local retail merchants, movie theater operators, civic organizations, schools and churches, and city maintenance departments.

Suggestions are made for employing each of these media fully in impressing the public with the need for traffic safety.

Quick Action Averts Hemp Storage Fire

ALTHOUGH many authorities on hemp storage disclaim the possibility of spontaneous ignition in such storage, Fire Chief Edward P. Welch of Columbus, Ohio, refused to take a chance and by quick thought and action prevented what might have been a serious fire in the Columbus warehouse district.

On the morning of July 1, Chief Welch was called to pump water from the elevator pits in a warehouse basement which has been flooded to a depth of about two feet three days earlier. Aware that the basement contained about six carloads of hemp, the Chief and I first checked on the actual conditions and investigated possibilities of spontaneous ignition.

Temperatures in the basement indicated that the hemp was "heating up," and further investigation revealed that some bales had reached a temperature of approximately 180°. A hook and ladder company was ordered to ventilate the building, and two pump companies were instructed to lay four hose lines into the basement. Orders were issued for the immediate removal of all hemp, but then could not be executed for several hours because high water had short-circuited the elevator motors. A temporary lift was installed and the removal of the 450-pound bales began.

Soon after the basement was ventilated, there was a noticeable reduction in the general basement heat. Temperature in the bales dropped to approximately 140 degrees after twelve hours and to 120 degrees after 24 hours. All hose lines were left in position until the removal of the hemp was completed.

CAPT. JOHN E. JORDAN, Chief
Bureau of Fire Prevention
Columbus, Ohio

Constant check of temperatures in hemp bales in a flooded Columbus, Ohio, warehouse basement held down the possibility of spontaneous ignition.

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Vol. LXI, No. 8 **The American City** *August* 1946

Community War Memorial Coliseum Successfully Financed

By R. L. HUTCHISON

BELIEVED TO BE the first successful project of its kind, a public subscription campaign to finance a $750,000 memorial coliseum dedicated to World War II servicemen and women in Winston-Salem, N. C., has resulted in contributions totaling $900,000. Community leaders are confident that additional gifts, in the estimated three-year period before construction is feasible, will provide a million-dollar indoor arena.

Intensive solicitation throughout the highly industrialized city and Forsyth County resulted in what Gordon Gray, newspaper publisher and chairman of the War Memorial Committee, described as "the beginning of a new era of civic pride and city-county unity."

Features of the Design

The coliseum will be built at the edge of the fair grounds in the northern part of the city. As it is now planned it will be 287 ft. long and 174 ft. wide; 50 ft. high at the apex of the roof. Most of the estimated 2,115,000 cubic feet capacity will be used for a great indoor arena, with only a small allotment of space for lounges, committee rooms, dressing rooms, and toilets.

The plans, drawn by Eggers & Higgins of New York and still subject to many proposed variations, call for a grand foyer on the central front side of the building in which will be inscribed the names of 14,000 World War II veterans from Forsyth County. The foyer will be 126 ft. long and 15 ft. deep.

There will be entrances all around the building, leading onto a lower concourse and, by ramps, to an upper concourse. Passageways from the upper concourse to the 6,200 permanent seats encircling the arena will be virtually level ramps, opening approximately midway up the tiers.

The arena will be 204 ft. long and 91 ft. wide. Since provision has been made for an ice rink, with terrazzo tile over a floating floor of monolithic concrete with imbedded brine pipes, no basement is planned under the arena itself. There will be a basement under the foyer, large enough for boilers and mechanical equipment, including the switchboard. Tentative plans call for an air treatment process.

Principal construction materials will be brick and stone, with reinforcing steel. The roof will be supported by heavy steel girders, spaced for 26-ft. bays. The roof will have a 7½° slope from the center to the outside edges, with a spray system to help cool the big structure.

Uses of the building will include basketball tournaments, ice hockey, musical festivals, conventions, dances, and livestock shows. For the livestock shows, tanbark and dirt will be laid on the tile flooring. A removable wooden floor for basketball and roller skating, as well as flooring for the additional 3,000 seats on the arena floor, will also be provided.

Control and Maintenance

Control of the coliseum has been vested in the Winston-Salem Foundation, a non-profit philanthropic and charitable organization with a fine 20-year history of service to the community. The Foundation's million-dollar assets include the fair grounds, and it will appoint a board of seven governors to exercise direct control over the memorial building.

Segregation will be practiced for Negro attendance at public events, but the sponsors of the campaign to finance the building assured Negro contributors that the seats assigned Negro citizens would be the same in all respects as those reserved for white spectators, including choice location.

Emphasis in the public subscription campaign, for which the American City Bureau was retained as fund-raising counsel, was divided evenly between the desirability of a "living memorial" honoring those who had been in uniform and the need for a large indoor arena in a city of nearly 100,000 which heretofore has lacked such facilities.

Design for memorial coliseum at Winston-Salem, N. C.; Eggers & Higgins, Architects, New York, N. Y.

Columbus, Ga., Cleans Up

This city has instituted a clean-up drive which includes continuing insect and rat control measures planned to change permanently the sanitation habits of the entire community.

MANY CITIES accept their rat and insect pest population resignedly, arguing that there is little that can be done about them. Others seems to take a civic pride in the size and courage of their pests. But the officials of Columbus, Ga., feel that something can be done about it, and they are in the process of doing it.

Typhus Control Began Project

The city already has an active rat control program functioning in the business district. This program was instituted as a means of controlling endemic typhus fever, and City Manager Marshall Morton does not intend to see an area carefully cleaned of rats infested again. Simple arithmetic, he points out, demonstrates the value of rat control. Discounting the cost of typhus to a city, one rat eats two dollars worth of food per year, and without a control program a municipality will have as many rats as people. Columbus has 60,000 people and if it had as many rats it would suffer an economic loss of $120,000.

The program blocks the rats away from their food supplies, eliminates their nesting and hiding places, and kills them. A city ordinance requires that each business property be made rat-proof and maintained free of rats. The property owner is held responsible for the rat-proofing and the building occupant is responsible for the extermination of the rats. The first step is an inspection of the building by a representative of the Health Department who estimates the cost of the rat-proofing and rat eradication. The owner and tenant are informed of the cost estimates and are given the privilege of having the work done by competent outside help or by the specially trained city crews.

The owners usually choose to utilize the latter method, since the cost is lower. Several hundred buildings have been rat-proofed by city workmen at a cost averaging less than forty dollars per business establishment. This phase of the program is entirely self-liquidating.

The extermination of the rats inside the buildings is done partially by city crews. The Health Department maintains routine inspection of all buildings to insure that the extermination work is continuously effective. The city crews are also continuously engaged in a community-wide program of rat killing. Cyanide gas is used in burrows outside the buildings, and bait poisoned with red squill is placed at strategic points. The newly discovered rodenticide, 1080, has been used with highly successful results.

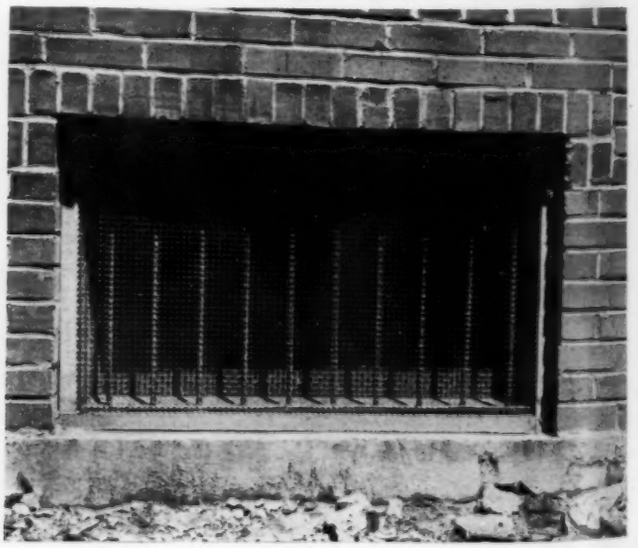
The program has been singularly effective. Tests of rats killed indicated that 90% of the typhus infection lay in one block. Thus, by eliminating the rats, the chief danger point of the city was neutralized. Nearby cities with similar characteristics are experiencing an increase in the number of cases of typhus fever but the incidence of that disease in Columbus remains phenomenally low.

The control of disease-carrying insects such as flies, roaches, and mosquitoes draws on a pioneering experience in the city-wide use of DDT with the technical assistance of the U. S.

RIGHT: *A sheet-metal channel prevents rats from gnawing through the lower portion of this woden door. Notice the vent screens, top and bottom, and the concrete pointing around the frame.*

LOWER LEFT: *These door and window screens are on the back of a grocery store. Screens of ½-inch, 19-gage metal cloth on a sheet-metal frame keep rats on the outside.*

LOWER RIGHT: *A barrier of 19-gage screen framed with sheet metal prevents rats from entering a large produce house.*



City crews shoot cyanide into rat burrows. This kills most of them and stuns the rest, which are killed when they come out dazed.

Public Health Service. "DDT," City Manager Morton emphasizes, "is the supplement to a good sanitation program, but it is not a substitute for it." The use of DDT is being combined with a thorough and continuous community-wide clean-up, and garbage and refuse collection programs.

Columbus-Muscogee County health officials are intensifying their sanitation services with the aim of locating and eliminating the breeding places of all insect pests. The spraying program started early this year covered, first, such obvious places as dairies, cowlots, stables, chicken yards, and similar places. Roach control in sewer manholes, warehouses, and food establishments is also under way. The final step in the program is the house-to-house spraying that will be conducted in strict accordance with practices recommended by the U.S.P.H.S.

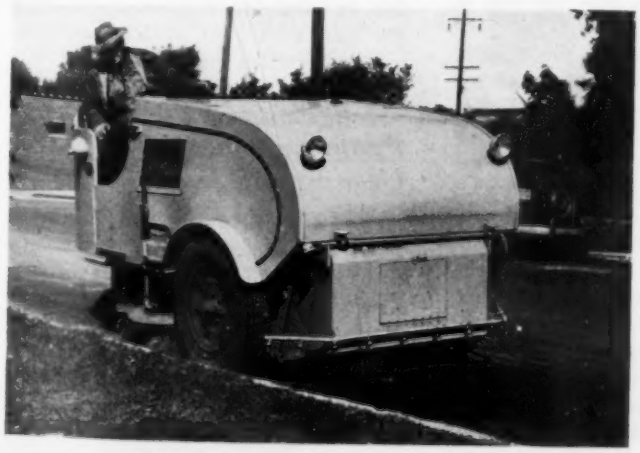
City and County Work Together on Program

This work combines the efforts of both city and county officials. Marshall Morton, city manager of Columbus has been responsible for much of the success of the work. J. M. Graddy, director of Public Works for the city has charge of refuse collection and disposal. The rat control, community sanitation, and DDT spraying programs are under the supervision of J. A. Willman, public health engineer for the combined City-County Department of Public Health.

Albert Lea, Minn., Mechanizes Municipal Services

THE USE OF mechanical equipment makes a dollar go far in Albert Lea, Minn., when it is spent for public service. It also compensates for hard-to-get labor.

Snow removal is speeded by the use of an elevating bucket made locally and attached to a Horn hydraulic hoist mounted on an International tractor. The bucket is 6 ft. wide, 3½ ft. deep, and 21½ ft. high. On its best day it loaded 299 truck loads of snow, each load about 2½ yds.



The operator maneuvers Albert Lea's new Gutter Snipe carefully along the curb line.

The South Bend Gutter Snipe street sweeper is fairly new. City Manager LeRoy F. Harlow reports that it did not arrive in time last fall for a patrol to be organized. This year it has been used mainly to clean tar streets in advance of patching crews.

The construction of sanitary sewers to serve new residential developments in Albert Lea goes along much faster with a skeleton crew of workmen when helped by the use of a Greiman trencher. Pipe for this particular installation varies in size from 8 to 12 inches.

The equipment and its operation is under the supervision of A. E. Fretheim, city engineer and director of Public Works.

This home-made bucket speeds snow removal, particularly where labor is still hard to get.

A trenching machine crawls along at a steady rate, enabling the sewer collection system to reach a new housing development.

TODD SHIPYARD PHOTO

Fog laden with DDT rolls through grounds of a state institution at Woodbine, N. J., reducing the populations of mosquitoes and other insect pests.

Fogging Out the Flies

A fog applicator developed during the war furnishes a new weapon for use against insect pests.

ABOUT a year ago a fog appeared on portions of Jones Beach, one of the well known playground areas of New York City. This in itself was not particularly noticeable since fogs have rolled offshore and onto these beaches since the island was formed.

But the mosquitoes and other insect pests knew the difference between this and other fogs. This one was man-made, produced by "TIFA," an artificial fog-generating machine developed by the Combustion Equipment Division of Todd Shipyards Corp., New York, and it dispersed a fog lethal to insects.

Fog Test Successful

By the most critical standards, the test was a pronounced success. In tests since then, the fog machine has sprayed DDT and other insecticides over similar areas with equally encouraging results and has earned commendation of entomologists and city officials alike.

At the time of the tests, one year ago, TIFA still was under governmental restrictions, but now these have been lifted and the fog-generating device is going into civilian channels. This particular model can be easily operated by one man and is powered by a small gasoline engine. It draws the solution or suspension to be applied from a separate tank, thus making it easy to separate different types of solution for various spray purposes.

The fog-generating machine can produce fog particles of various sizes by adjusting two valves, one governing the pressure of the flow of insecticidal fluid and the other controlling the size of the opening through which the insecticidal fluid passes into the end of the nozzle and meets the blast of heated air. In general the smaller particle is more desirable for use indoors, as its penetrative and permeating qualities will be higher, while outdoors a larger particle leaves a residual deposit longer. The residual effect of small particle fog indoors is not materially less than a larger particle out of doors since many of the chemicals will deteriorate when exposed to sunlight and air.

Entomologists do not greatly fear that this fog applicator will "upset the balance of nature" as many people have warned. Even though the fog appears dense, it actually produces a very light application of the insecticide. The ratio of volume in a particle of fine fog to that in a fine spray comes to the staggering figure of 1 to 64,000,000. The application is furthermore local in character.

Where Used

Fish ponds have been blanketed by the insect-lethal DDT fog to eliminate mosquitos, gnats, and other blood-sucking insects but the fog did not bother the fish, although cold-blooded animals are said to be peculiarly susceptible. Crop, vineyard, orchard, and grove acres have been fogged by TIFA to kill thrips, leafhoppers, and other pests without killing bees.

The fog generator has been used successfully not only at Jones Beach, L. I., but also at the Central Park Zoo, New York City, Flushing Meadow Park, former site of the New York World's Fair and now to be the temporary home of the United Nations, the Philadelphia Municipal Stadium, the New York State Park Commission, and many other places.

"American Druggist" Promotes Better Communities

A CURRENT indication of the increasing concern of businessmen with civic affairs is the publication in the July issue of *American Druggist* of a series of ten articles keynoting the responsibility of the neighborhood druggist for the improvement of his community. Says editor John W. McPherrin:

"We do not urge druggists to take an active part in civic affairs because better communities always result in better business, nor because there is no better advertising for a retail druggist than to become known and respected by his customers as a community leader. Although these business advantages are desirable by-products of civic activity, the real incentive of good citizens is their desire to keep America sound and good at its roots.

"In these days of social upheavals the wholesome communities of America will be our greatest protection against ideas that are contrary to the American way of life."

Planning Cities for the Atomic Age

Mere survival is not enough

HOW TO design American cities to minimize the danger from atom-bombs and to capitalize on the constructive uses of atomic energy was the subject of a paper presented by Tracy B. Augur before a recent meeting of the American Institute of Planners in New York City. Pointing out that the United States is an urban nation and that its productive and governmental machinery functions through its urban centers, Mr. Augur stated that in the years ahead the measure of the nation's ability, either to meet foreign aggression or to grasp domestic opportunity, will be found in the way that it handles the form and distribution of its cities.

Commenting first on the danger from atom-bombs, he pointed out that if an attack were made on this country, it would be aimed at the sources of its strength, the centers of production and organization. Its purpose would be to deal a swift knock-out blow that would deprive the nation of its power to defend itself or to retaliate. "The more highly our centers of production, communication, and government are concentrated," he said, "the easier it will be to cripple us by such a blow and the more inviting it will appear to any military clique that may be toying with the idea. Conversely, the more decentralized our national economy and our national administration, within the bounds of effective organization, the more difficult it will be to disrupt it and the greater will be the probability of quick and effective retribution against anyone who tries it."

Commenting on the recent estimate of Dr. Louis Wirth of University of Chicago that a national program of decentralization would require the building of 700 new cities of 50,000 population just to absorb the people now living in cities of greater size, Mr. Augur pointed out that the United States has already set a construction goal equivalent to the building of 900 cities of that size in the next ten years. The 12,600,000 new non-farm dwelling units set as a goal for the national housing program will be accompanied by the construction of enough new streets, schools, sewers, stores, factories, etc., to equal that number of cities.

Mr. Augur discounted the fear that a national program of urban decentralization might be regarded by other nations as an indication that we were preparing to launch an atomic war. Stating his belief that intelligent handling of our urban problems was no more an aggresive act than the attainment of a high level of industrial production or scientific achievement, he pointed out that reasonable dispersal of the great centers of production, commerce, and government would not tend to weaken the nation's productive capacity, as some have charged, but instead would strengthen it.

Does the Atomic Bomb Doom the Modern City?

For another significant discussion of this subject, readers of THE AMERICAN CITY are referred to a paper under the above title, presented before the American Municipal Association, and published in full in New Jersey Municipalities *for April 1946.*

While emphasizing the advantages of spacious planning, irrespective of any threat from the air, the author, Dr. Louis Wirth, concludes that:

"Considering the magnitude, the technical difficulties and the material cost of the changes necessary to make the United States invulnerable—or rather relatively invulnerable—against atomic warfare, the conclusion appears to be obvious that it would be far better for this nation to put all of its eggs in one basket by proceeding forthwith to develop an effective world organization for the control of the atomic bomb."

Concentration vs. Dispersal

Using the diagrams shown on the next page he showed how a typical city of half a million could be rearranged from a concentrated to a dispersed form without weakening its capacity to function as a single metropolitan unit. In the dispersed form, the urban area would be divided into a group of semi-independent communities clustered around an urban center but separated from it and from each other by wide belts of open land. Such a pattern of urban development would be much less vulnerable to atom-bomb attack than a concentrated city but would permit a high degree of efficiency and economy in operation and would provide a much better relationship between city and country and better living conditions.

While agreeing that world organization to prevent the use of atom-bombs provided the only full measure of safety from such weapons, he held that a national policy of planned decentralization offered a secondary line of defense that should not be disregarded. He suggested that the decentralization of American cities be considered "not as an alternative to world organization but as an added national objective; not primarily as a defense against atom bombing but as a positive means of securing to the American people the full benefits of the atomic age."

Speaking on the latter point, Mr. Augur said:

"In discussing the planning of cities to take advantage of the atomic age it must be remembered that they have not yet caught up with the age of steam. They have a long, long way to go! Ever since the industrial revolution gave them preeminence in national affairs, they have lagged behind the technological advances of the times in the rate at which they passed on the potential social and economic benefits to their citizens. The age of steam was also the age of congestion and slums, and neither the age of electricity nor the motor age has served to lessen those evils. It is not that electric power and automobiles and concomitant developments have not made it possible to lessen them, but that our social and political sciences have not taught us how to bring the improvement about.

"To place this country's cities abreast of the atomic age will take a kind of planning and action as new to our accustomed modes of thought as that involved in relinquishing a portion of our national sovereignty for international control of atomic energy. We cannot do it by the old devices of widening streets, zoning stores out of residential districts or redeveloping old slums with new ones. We must start with the qualities of social life that are worth having and plan the kind of urban structure that will make them most fully possible. This means thinking and acting not alone in terms of individual cities but in terms of the nation, because all major cities are part of the net work of production, communication, and government by which the nation lives. If we recognize the logic of a world plan for the development of atomic energy, we should be willing to recognize the logic of a nationwide plan for bringing the benefits of that development down to the level of our daily lives.

A Useful Spur to Jolt Us Forward

"Ironically, the achievement of a new world order could save our present urban centers from atom bombing without saving them from destruction. Long before the threat of the atom-bomb became a reality, cities were feeling the force of a decay that was equally destructive, albeit not so quick. If proof is

needed of the unsoundness of the present urban structure as a pattern for the future, one need merely look at the blight that is gnawing at its innards. Economists, sociologists, public officials, bankers, business men all note its spread with growing despair but without any long-range proposal for its cure. Perhaps it is because the cure involves such fundamental departure from the patterns of the past that we are afraid to face it. If it is timidity that balks the American people at the dawn of the atomic age, then the threat of atom bombing may prove a useful spur to jolt us forward!

"Let us take another look at the pattern of decentralization that was set up as a partial offset to that danger. Does it offer a defense against the spread of urban blight? I think it does, for reasons which have been ably stated by better men than I. Sir Ebenezer Howard made a convincing presentation of the case almost fifty years ago when he proposed the reorganization of great urban concentrations into clusters of garden cities separated by greenbelts of farm lands and recreation areas. He did not know anything about atom-bombs, but he had a keen eye for the causes of urban decay and the national decay that came with it, and he proposed a cure that, to my knowledge, has never been successfully challenged. Apparently the British, after thinking the matter over for half a century, have concluded that he was right, because the new plans for London embody his thesis of organic decentralization and there are signs that the new plans will be carried out.* Can it be that the British are less timid than we? Or have they merely been living with the problems of acute urbanization a little longer?

* See THE AMERICAN CITY for June 1946, pages 5 and 74.

Urban and Rural Advantages Combined

"What about the decentralized pattern for making life in cities more enjoyable in the atomic age? Is it possible for people to live in relatively small communities, say of 30,000 to 50,000 population, within walking distance of farm and woodland, and still enjoy the economic and cultural advantages of the modern metropolis? Ebenezer Howard showed that it was; and at a time when personal travel depended on one's feet, a bicycle, or horse and buggy; when mass transportation was the almost exclusive province of the steam railroad; and when telephones, radios, and movies were unknown. If the qualities he sought through the communion of town and country, and the limitation of cities to a size in scale with human comprehension could be attained in that day without sacrificing the advantages of the industrial revolution, how much more easily can they be achieved in this day of easy transportation and communication?

"Finally, is the job of achieving a logical pattern of decentralization so colossal that Americans need shy away from it? . . .

"In and around practically every metropolitan center in the land we will build in the next decade the equivalent of one, two, three, or more complete satellites of 30,000 to 50,000 population and think nothing of it. We will cause stupendous economic dislocations and create staggering social and political problems, and we will worry little about the cost, the loss of the investment in displaced facilities, the disruptions of land values and tax sources, or the social problem of moving a third of the nation's families to new homes. We will do all that without giving it a second thought because it will be done in the normal way, within the framework of city development to which Americans are accustomed. There will be new subdivisions of land around city fringes, new houses in old suburbs, new apartments and stores and office buildings downtown, some slum clearance and redevelopment, new streets, new schools, et cetera. But when all this is done, ten or more years hence, American cities will remain substantially as they are today. They will not be any better fitted to capture the benefits of the atomic age for their inhabitants and they will not be any better fitted to protect them from the awful mass destruction that atom-bombs can bring.

Needed: Wisdom More Than Money

"It would take no more money or materials, it would cause no greater total of social and economic upheaval—but it would require a lot more wisdom—to do this colossal job of city building in a way that would greatly lessen the threat of atom-bombs and greatly increase the economy and amenity of life in cities. There is nothing physically, economically, or socially impossible about achieving cities fit for the atomic age. The difficulty lies in our heads. Individually and collectively the American people are less informed about the possibilities of scientific city planning than they are about the intricacies of nuclear fission, and at the moment they seem less interested.

(Continued on page 123)

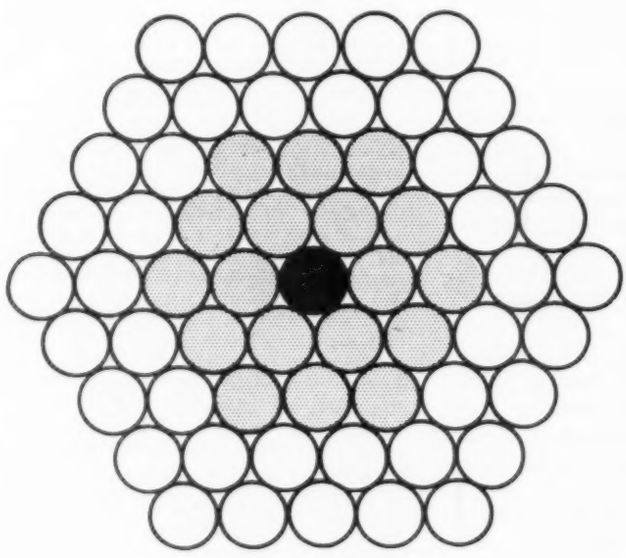


FIG. 1

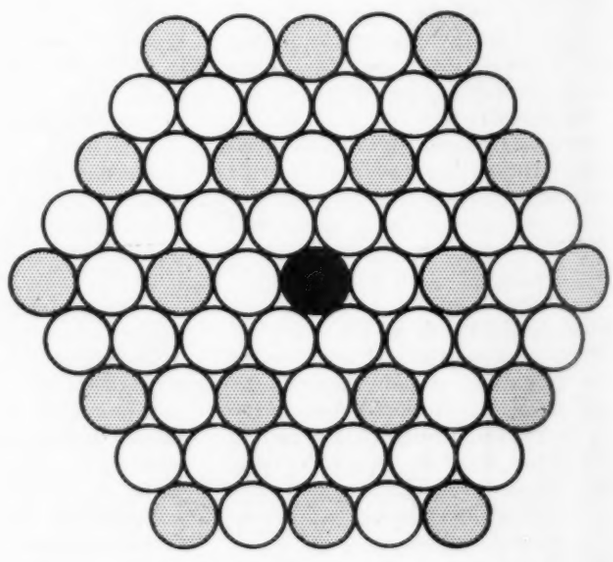


FIG. 2

These diagrams illustrate two different methods of arranging the urban area of a city.

Figure 1 shows the usual concentrated urban development with open country beyond. Figure 2 shows the same areas rearranged so that the urban development is broken up into semi-independent communities separated from one another by at least two miles of open country.

Urban area is represented by the gray and black circles; open country by the white circles. Each circle is assumed to represent a land area 2 miles in diameter and the urban circles are assumed to contain an average population of 30,000 each, giving a total population of 570,000.

In both arrangements the total population is the same and the same total area is devoted to urban development and to open country. The principal difference lies in the distances between parts of the city, which are nearly doubled. However, travel between points in the dispersed city would be largely through open country, so that the time consumed would generally be no greater than for like travel through the streets of the concentrated city.

Akron's Soil Stabilization Program

Low-cost street improvements help this city keep abreast of a growing population that likes to spread out.

By M. D. WILSON
Assistant Engineer
Highway Division

AKRON, Ohio, a city of almost 300,000 population, began to experiment with soil stabilization as long ago as 1936 for both street improvement and airport runway construction, and is still using stabilization methods for various special situations.

Generally, one thinks of stabilized soil roads as being most suitable for secondary roads out in the country, and it may seem strange that a large industrial city like Akron would have much use for this type of construction. However, the explanation is that the area of Akron has been growing faster than its population, so rapidly that construction of pavements could not keep pace; consequently, the city had to develop a serviceable, inexpensive alternate.

Soil stabilization has given us the answer, and this has been confined almost exclusively to the use of mechanical methods plus a certain amount of work using asphalt emulsions; we have not yet tried stabilizing with other materials such as portland cement, calcium chloride, tar, or asphaltic cut-backs.

Early Street Improvements

The first soil stabilization work, consisting of three miles of improvement spread over seven different streets, was completed by city street maintenance forces in 1936. Some of this original work has been replaced with high-type pavement, but most of it is still in service. Where proper drainage and aggregate were present, the work was satisfactory, but when cinders comprised the aggregate or where the subgrade was poorly drained some failures occurred.

One of these jobs, built in an especially favorable location, has successfully carried heavy traffic, including a bus line, for the last ten years. During 1937, 1938, and 1939, more streets were improved in this manner until the total for this type of improvement equaled six miles.

Airport Runways Carry Bombers

Late in 1936 a WPA project was started on the stabilized soil bases for runways at the Akron Municipal Airport and continued until the middle of 1938, with the WPA furnishing the labor and the city furnishing material, equipment, and supervision. This project included 204,600 square yards of runway pavement, of which 78% or 160,000 square yards have stabilized soil bases of 4-inch compacted thickness, covered with a dense graded bituminous surface course one inch thick. These runways are still in service and are being used every day by four commercial air lines. During the war they handled heavy bombers such as the B-17 and B-24 without any apparent damage.

Several miles of streets have been more or less stabilized as the result of successive applications of dust palliatives. With our large mileage of unpaved streets, the annual dust treatment program is of considerable magnitude, sometimes being as much as 100 miles per year. The dust palliatives generally used consisted of applications of road oil, calcium chloride, asphalt emulsion, or asphalt cut-back.

On streets where the surfacing material happened to be a suitable mixture of run-of-bank gravel, the repeated treatments of asphalt emulsion have resulted in a road surface that is almost a true stabilization job—dust-free in the summer season and of sufficient stability to resist the abrasion of traffic and the destructive forces of winter. We do not obtain this progressive stabilizing effect with cinder road surfaces because the cinder aggregate has neither strength nor stability within itself.

However, the asphaltic residue that accumulates from successive applications of road oil or cut-backs does bind the loose aggregate to the extent that such surfaces will resist erosion but will not be stable enough to resist displacement such as shoving or creeping under heavy loads.

Erosion Control

Because Akron is a city of hills, many streets have very steep gradients and their gravel surfaces erode rapidly in wet weather. Parts of thirty such streets received asphalt emulsion treatments in 1940 and re-treatments in 1941. This resulted in the partial stabilization of about seven miles of roadway and the saving of a considerable amount of expensive and continuous maintenance. Most of these streets are still resisting erosion successfully.

During the last three years, several new streets serving new housing projects have been constructed with a 2-inch bituminous surface course on a partially stabilized gravel base 6 inches in depth. On these projects the gravel is stabilized mostly by the use of water and equipment with the top 1½ inches of depth being treated with asphalt emulsion. Over half of these streets have been in service from two to three

Akron's soil stabilization work is primarily an equipment operation. Here a sheepfoot roller pulled by an Allis-Chalmers tractor brings the base to its optimum density.

For the upper portion of the base the city uses rubber-tired rollers. A Galion blade grader pulling the roller removes any pumps that may have developed in the base.

Proper moisture content is important for Akron's soil stabilization program. Here one of the city's flushers, with nozzle pointed upward, sprays the surface of the base to keep it from drying out too quickly.

When the base is completed, a seal coat goes on. Here the truck is spraying stone chips on the asphalt. The distributor may be seen in the background. This construction work was done for the Akron Airport.

years and are still in excellent condition. This work is done by contractors working for the housing project developer.

Construction Methods

On major work such as the airport runways a commercial laboratory tested the existing soil and established the admixtures for each different soil condition encountered — coarse aggregate when the natural soil was too finely graded, and soil when there was a deficiency in binder.

We mixed the material in place, loosening and pulverizing the various soil components with rooters, spring-tooth harrows, and blade graders. Following this, a Jaeger traveling plant mixed the blended soil with asphalt emulsion. One pass of this mixer handled all materials for the entire depth of the base, which was 5½ inches before and 4 inches after compaction.

The sheepsfoot rollers came next, rolling until the feet "walked out" over half the depth of the base. Then rubber-tired rollers compacted the upper half of the base. Steel rollers were used only for one final finishing pass over the entire area. As the rubber-tired rollers were working, small adjustments in grade and crown were made with motor bladers taking very light cuts. In dry weather, a street flusher applied additional water to keep the surface from drying too rapidly and to aid in the final smoothing operations.

Similar methods were used on some of the streets stabilized by city forces, except that on much of the street work the emulsion was applied with distributors and the mixing was done with spring-tooth harrows pulled by tractors.

In the case of the "progressive stabilization" the primary purpose is to prevent a dust nuisance, and soil stabilization is only a fortunate coincidence.

For this type of work the bituminous material is applied by distributors after the street surface has been scarified to a depth of 1½ to 2 inches by motor bladers. These bladers also mix the soil and emulsion, after which they spread the mixed material smoothly over the roadway. The street is kept closed for a day or more (depending upon the weather conditions) to dry out and then opened to traffic, which acts as rubber-tired rollers and soon compacts the thin mat of treated material to a smooth, even surface that is dust-free and resistant to erosion.

For both stabilization and dust treatment, the asphalt emulsion is generally diluted with two or three parts of water before application. This produces a rather wet mixture which is easier to manipulate than a dry one, and also aids in the complete dispersal of the emulsified asphalt throughout the soil mass.

The quantity of asphalt emulsion used averages 3 gallons per square yard for the complete stabilization of the 4-inch thick airport runway base. For the light treatments used for dust laying and at the housing projects, about ⅝ of a gallon per square yard is used. Both quantities are for straight emulsion before dilution.

At the housing projects, a suitable mixture of run-of-bank material is hauled in to provide a gravel base of 6 inches of compacted thickness. In a few cases where the run-of-bank material was deficient in coarse aggregate or binder soil, these materials were added and blended in as the gravel was spread.

On this work we do not use asphalt emulsion for the full depth of the base course but rely mainly upon mechanical stabilization obtained by proper selection of materials and by the use of sufficient moisture and rolling. Sometimes there is almost enough rainfall and construction traffic over these streets to supply the necessary moisture and rolling except in hard-to-get-at places—adjacent to curbs and manholes, for example.

After the base has been built up to grade and crown, the top 1½ inches of depth is scarified and asphalt emulsion applied and mixed as previously described for dust treatment. This is followed by a period of drying and rolling, after which the base is ready for a surface course.

On housing projects where the base is stabilized gravel, a bituminous sur-

(*Continued on page 123*)

This shows a street with the base laid. Note that cars are using it while the street is still under construction. Their rolling action helps compact the base.

G.I. On-the-Job Training Program Helps Cities as Well as Veterans

By HAROLD J. ASHE

Heads of municipal departments, along with private employers, are finding that the most desirable job applicants—usually veterans—are unable or unwilling to work for the starting scale of wages that employers are able to pay for unskilled or only partially skilled services. This is particularly true of trainees and learners. That is where the on-the-job training program is made to order for both the municipalities and the veterans seeking to learn a trade or skill.

MUNICIPAL officials bedeviled by a continuing shortage of desirable employes might do well to investigate the possibilities of the on-the-job training program provided by the Servicemen's Readjustment Act, sometimes known as the G. I. Bill of Rights.

With millions of young men and women already discharged from the services and others slated for an early return to civilian life, a tremendous pool of potential municipal employes is at hand. Most of these veterans are young, many totally inexperienced and without any previous civilian employment.

Before going further, one point of misunderstanding should be cleared up. The belief is widely held that the federal on-the-job training program is designed only for large industrial plants and for those with elaborate apprentice training departments. Such is not the case. Any employer—private or public, of as few as one employe — may become a part of the training program which covers virtually every gainful occupation.

In one great American city, for instance, where recruiting of police officers has lagged dangerously, rookies have recently been enrolling in the hundreds following the introduction of on-the-job training.

Authors of the bill recognized that employers are unable to pay learners a skilled or fully-trained worker's wage and, at the same time, that most veterans are unable to live and support families adequately on apprentice pay. Veteran-apprentices, unlike pre-war learners, are starting in trades at a mature age and frequently with family obligations. For this reason, eligible veterans taking on-the-job training are given a subsidy by the government of $65 a month if single, or $90 a month if married or with other dependents.

How the Plan Works

Let's illustrate how the plan works by taking a typical example. Johnny Jones is a youth of 18, who went directly from high school into the armed forces in 1940. Now, at 24 he is again a civilian, but without a trade. While, in the armed forces, Johnny married and now has two children. He wants to become a policeman in his home town, but the starting salary is only $125 per month and he can't live on that.

Then he hears that a neighboring community is hiring veterans for its police force at $110 starting pay. He goes there and joins the force, for $15 a month less than he could have had in his own town. Why? Because, the police force he has joined has on-the-job training. In addition to the $110 a month from the municipality, the federal government gives him a subsidy of a maximum of $90,, bringing his total income up to as much as $200 a month.*

Veterans' Administration Requirements

The training program, as its name implies, is literally on the job. It is not necessary, particularly for smaller municipalities, to formulate elaborate study courses. Usually the veteran-apprentice will be under the direct supervision of the department head himself, or a trusted assistant. It is strictly a learning-by-doing approach, though in larger organizations the apprentice or rookie may go through regular fire schools or police academies.

Despite the fact that the training program is a federal government venture it is not a complex set-up, nor is it bogged down with endless red tape as might be suspected. A minimum of record keeping is necessary. The Veterans' Administration requires that a report must be filed indicating when the veteran's training started, the wages being paid, and the nature of the training being given. This assures the government that each veteran drawing subsidy is actually taking a training course. If the veteran's services are terminated, either by being discharged or by his resignation, the Veterans' Administration must be notified promptly so that subsidy payments may be stopped.

Control by the Veterans' Administration is confined to the veteran-trainee and no actual control is exercised over the employer. The Veterans' Administration does exercise indirect control, however, in that it can terminate the rights of veterans to draw subsidy where evidence indicates the employer is not honestly making an effort to train the veteran and develop his skills.

Not a Subsidy to Employers

Employers may not use the veteran's subsidy as an indirect means for getting cheap labor. The Veterans' Administration will frown upon substandard apprentice wages, that is wages which are below those generally prevailing for the trade or occupation. Thus, if a fair starting wage for inexperienced help in a particular occupation is $140 a month and the department pays only $80 to a veteran on the theory that the veteran's subsidy of $65 or $90 will bring the $80 up to more than the $140 paid non-veterans, the arrangement will be terminated by the Veterans' Administration, even though it may be satisfactory to the veteran involved.

Such a situation would be a clear abuse of the intent of the subsidy, as the subsidy, even indirectly, is not a subsidy to the employer to help him meet his payroll, but is solely an additional payment to the veteran to bring his starting wage up to something approaching a journeyman's or experienced worker's wage so that he can live comfortably while learning higher-paying skills.

If periodic wage increases are customarily given to apprentice employes as they progress, this same scale must apply to veterans taking on-the-job training.

While the subsidy is paid to the veteran by the federal government, the right of an employer to establish a job-

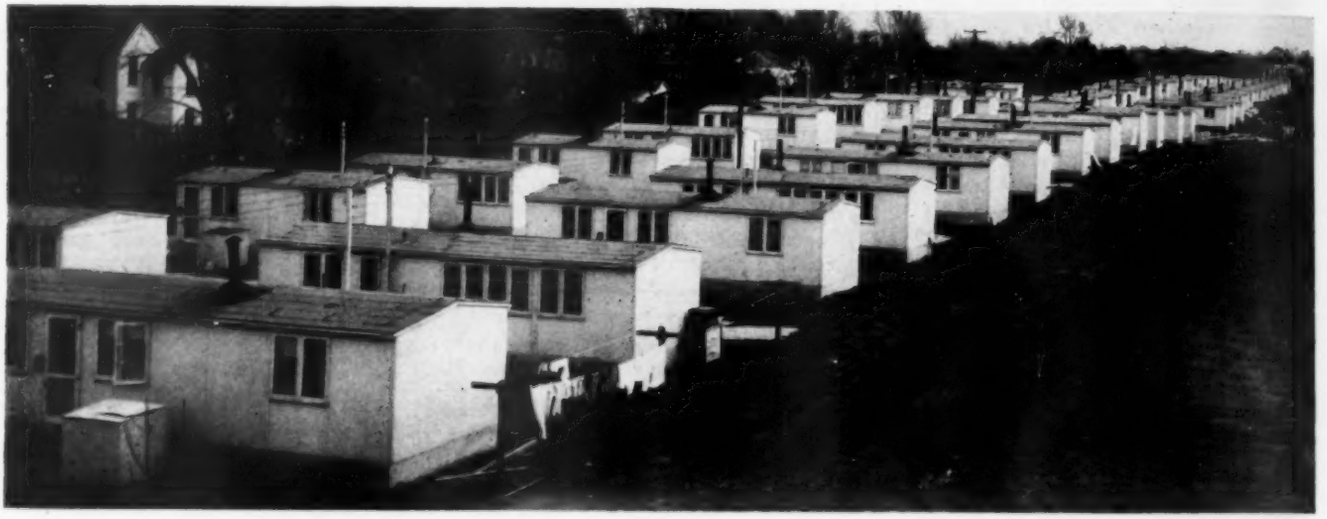
* Combined wage and allowance cannot exceed the wage of the experienced worker on the job in which the veteran is being trained.

training program for veterans must be obtained from one or another state agency, usually the state department of education, sometimes the department of labor, though in some states it may be neither of these agencies, but some other agency of state government.

Subject only to suggestions from the Retraining and Reemployment Administration, each state is permitted to set its own standards which employers must meet. One rule suggested to the state agencies for close observance is that the training period involve not less than 500 hours or, on the other hand, more time than actually required to acquire the skills necessary to make of the veteran a fully competent and trained worker.

In order to be eligible for employment under the terms of the on-the-job training program, a veteran must obtain a certificate of eligibility from the Veterans' Administration showing that he is a World War II veteran and is eligible for training subsidy. Depending upon the length of time the veteran has served in the armed forces, he is eligible for monthly payments of $65 or $90 for a minimum of one year up to a maximum of not more than four years.

"G.I. City" Has Its Own "Town Council"



Housing for veterans studying at the University of Kentucky is provided just off campus.

A "G.I. CITY," composed of 324 housing units for married veterans, has been established on the campus of the University of Kentucky, at Lexington, to ease the acute housing situation for those married G.I.'s who wish to take advantage of Public Laws 346, and 16.

Cooperstown, as the settlement has been named, is set up on the University's Experiment Station Farm, and by September it is expected that an additional 180 family dwelling units, and 310 units for single G.I.'s, which have already been alloted to the University, will have been put into operation.

With the approval of the University administration, Cooperstown has set up its own town council, with one representative for each ten residence units, and this group meets each Monday night under the leadership of the chairman of the board, elected from the membership.

The Cooperstown town council takes up the problems that arise in the community project, refers them to S. A. Boles, project manager employed by the University, who in turn refers them either to the Department of Maintenance and Operations, or, when involving a matter of policy, to the University Committee on Veterans' Housing.

Elbert Eugene Williams of Nashville, Tenn., an engineering student at the University, is chairman of the Cooperstown Council. In addition to assisting in solving administrative problems of the project, the council also initiates and operates community social affairs, publishes a weekly newspaper, and issues a directory.

Municipal Projects Planned with New York State Aid

AS OF JULY 15, 1946, the Postwar Public Works Planning Commission of New York State reports that state aid has been granted for the planning of 3,124 municipal projects whose construction costs are estimated to total $276,805,004.

Under the law enacted in 1943, a limit of 2% of estimated construction costs is placed on the state's share of the cost of plans. In addition, however, the Commission may authorize payment of one-half the cost of such extraordinary items as test borings, rod soundings, renderings, etc. All such allocations from state funds are made, however, only after the Commission is convinced a project is worthy and that its construction is within the financial ability of the sponsoring municipality.

The wide variety of types of projects for which this planning aid has been provided by the New York Postwar Public Works Planning Commission is indicated by the following table:

APPROVED MUNICIPAL PROGRAM BY TYPE OF PROJECT

Type of Project	*No. of Projects*	*Estimated Construction Cost*
Bridges	238	$9,276,158
Heavy Construction	30	5,126,988
Sidewalks	42	973,863
Parks & Playgrounds	121	10,520,377
Miscellaneous	163	11,351,449
Roads	1,262	74,102,069
Sewers	734	88,014,747
Water Supply	149	15,509,088
Buildings	378	56,947,080
Airports	7	4,983,185
	3,124	$276,805,004

Action is now pending on applications from localities for planning funds which, if granted, would bring the number of state-aided municipal projects up to 3,827.

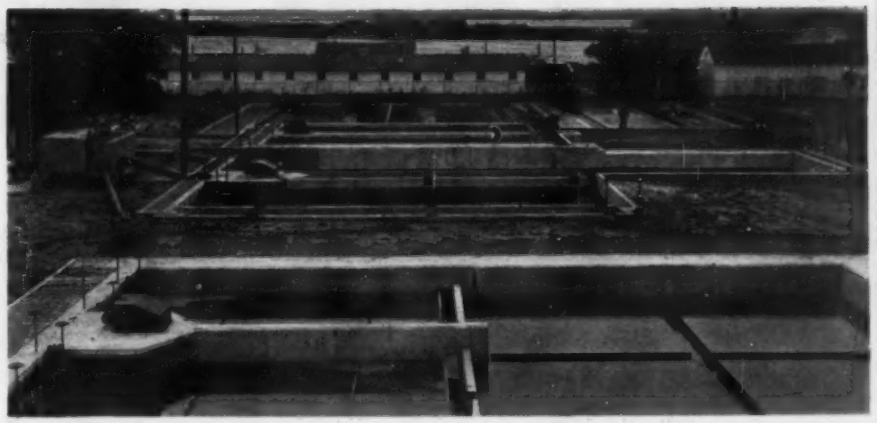
Pascagoula's "Deactivated" Activated Sludge Plant

THERE WAS some confusion at Pascagoula, Miss., when engineers tried to design and build a sewage treatment plant during wartime. Pascagoula needed the plant badly, since its normal peacetime population of 5,800 had multiplied six times. There were 5,800 new housing units alone.

The original design called for the activated sludge method, and the construction actually progressed to the point where some of these units were installed. However, when WPB restrictions came along, they "deactivated" the activated sludge portion, and insisted that primary treatment would have to do.

Roughly, the original plans called for a plant whose hydraulic capacity was 1.1 mgd to serve a population of 11,000 to 15,000. They called for primary settling, aeration, and secondary settling. The primary sludge was to be digested in units equipped with heating coils and gas collection facilities. Economically sound gas utilization features were to be incorporated, drawing on the gas stored beneath floating covers. The sludge was to be dewatered on sand drying beds as is commonly the practice in the southern area.

The revised plan called for changing the aeration and secondary settling tanks to primary settling, thus approximately tripling the primary settling capacity. The rear portions of the aeration tanks were converted to chlorine contact chambers by blanking them off with walls that can be knocked out later. The plant contemplated Wallace & Tiernan chlorinators to treat the effluent with 200 pounds of chlorine per 24 hours. The digesters became unheated, reinforced concrete structures, two with massive fixed covers, and one with an open top. The sand beds were left unchanged.



The three primary settling tanks. Originally the engineers had intended to use one of them for activated sludge treatment, but wartime priorities stood in the way. The sand drying beds are in the far background.

Under the present system, sewage enters the plant through a 24-inch outfall passing through bar screens at the wet-well intake. WPB would not allow the installation of comminutors although a place was left for them at the wet-well compartment. Here three Yeomans and one Chicago sewage pump lift the sewage into the distribution box, making the transfer through a 10-inch cast-iron force main. By means of a set of hand-operated gates, the operator can direct the sewage to any of the three tanks or can bypass the plant if desired. The three Yeomans pumps were originally 450, 800, and 1,680 gpm. The Chicago pump, installed later, was of 2,750-gpm capacity and the two larger Yeomans pumps received new motors and impellers to increase their capacities to 1,000 and 1,750 gpm respectively.

Two of the settling tanks were built together, each measuring 14 by 45 ft. The transformed aeration tanks now combine settling-chlorine contact. They measure 55 ft. by 78 ft., and will eventually contain 50 tubes on each side. Of this 78 feet, 45 is being used for settling and 33 for contact.

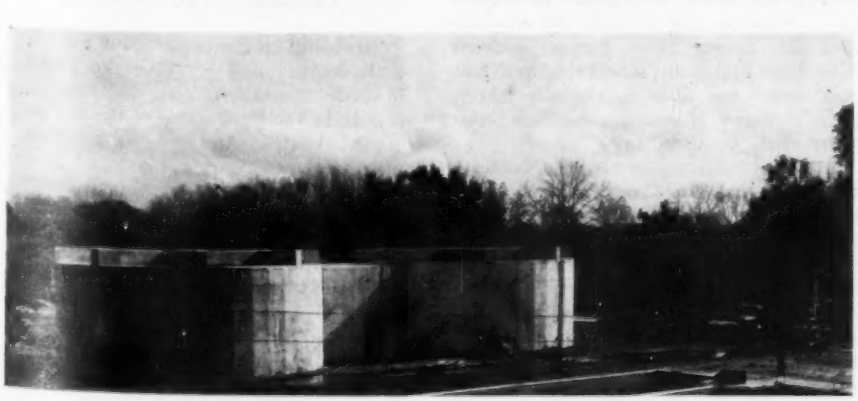
The third set of settling tanks are 23 ft. wide and 45 ft. long. All are equipped with Chain-Belt collectors and all have a water depth of 9.75 feet. The sewage from the contact tanks goes through an outfall into the Pascagoula River.

The three digesters measure 38 feet in diameter and are 27 feet deep with a 26½-foot water depth. The floors are hopper-bottomed, reducing to a 6-foot base in a 3-foot depth.

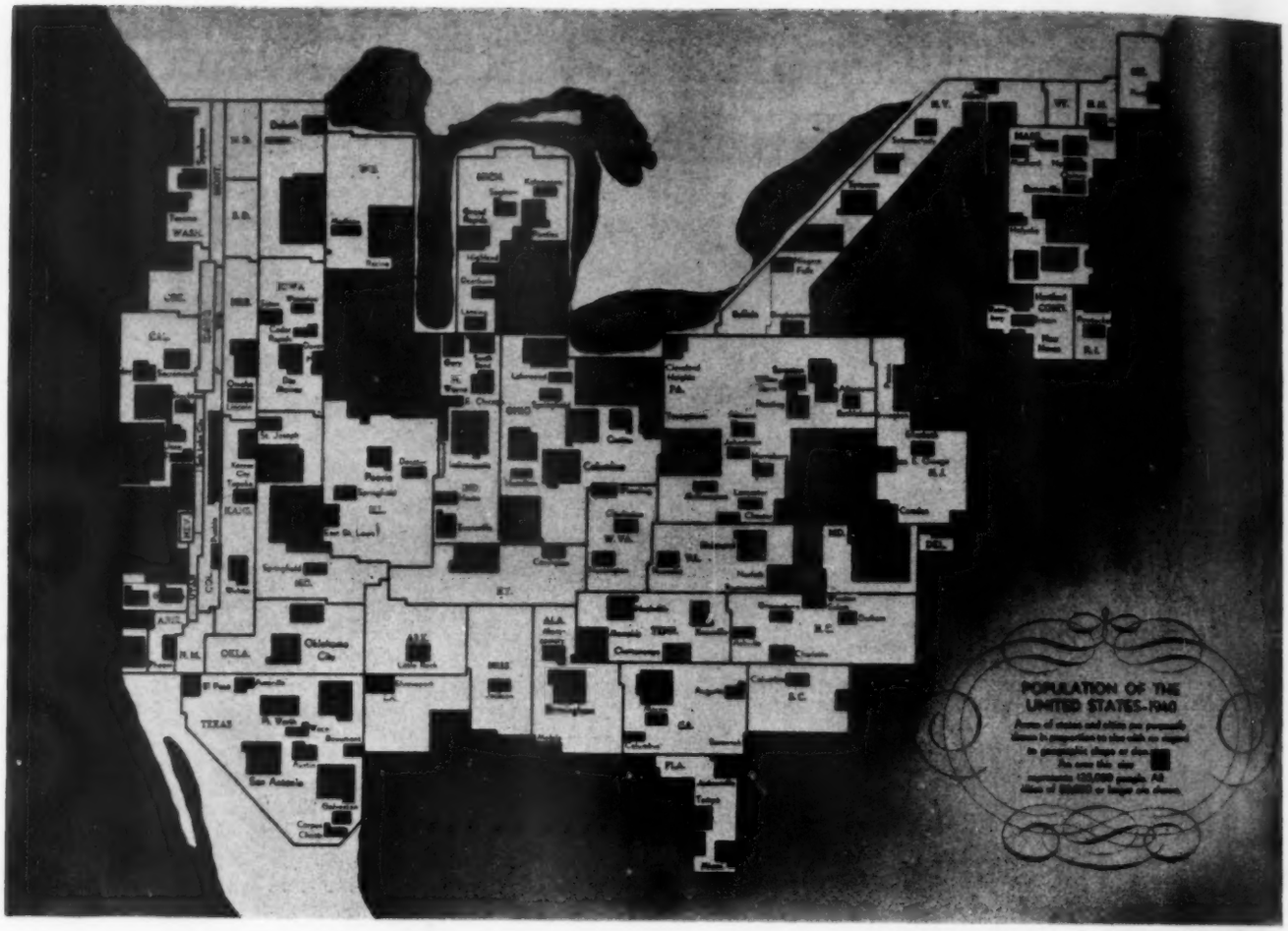
There are eleven sludge drying beds, each measuring 40 by 80 feet. The filtrate returns to the wet well from the sludge beds.

Now that the war has come to an end, officials at Pascagoula foresee revamping their plant by installing the diffusors in the spare settling basin and getting the plant to operate according to its original activated sludge plan. It is questionable whether heating coils will be installed in the digestion tanks, since the climate does the job in a thoroughly acceptable way; however, some thought is being given to the collection and utilization of the sludge gas for power.

The plant was built with FWA assistance after certification that a war-emergency existed. The entire project included 103,000 lineal feet of gravity sewer lines varying between 6 and 24 hours, 2,300 feet of force mains between 8 and 10 inches, 60,000 4-inch services, 405 manholes. Donald J. Simmons, Pascagoula, was the consulting engineer.



Note the beamed concrete covers of the two digesters.



MAP DEVELOPED BY ERWIN, WASEY & COMPANY, INC.

States and cities on this map are shown with areas proportionate to their population.

If the Areas of Cities Were in Proportion to Population

And if municipalities had more freedom of action

THIS unique map is reproduced from a 3-color double-page spread appearing in "You and Your City," a new brochure of the United States Conference of Mayors. As indicated in the caption of the map, the areas of states and cities are drawn in proportion to population and with no regard to geographic shape or size; all cities having a 1940 population of 50,000 or more being shown. Here are some excerpts from this handsome and well-written 40-page brochure:*

Cradle of Democracy

"The history of the city, both large and small, has been a forlorn procession, in the opinion of those who see it as the key instrument of civilization and government. Yet, while struggling against the buffeting of fate, human weaknesses, and petty politics, for hundreds of years the city has provided the world with the varied human contacts essential to the generation of those new ideas and discoveries which steadily improve the welfare of mankind.

"The city is the very cradle of democracy. It was in the city that the humane idea of letting the people govern themselves first came into being and first took root. And it is in the city where, given a chance, democracy has been most consistently practiced over the ages. . . .

"The only substantial mention made of the 'city' in the Constitution of the United States is the declaration of its subservience to the state, thus casting into a seemingly permanent mold the status in which the city finds itself to this day. And reinforcing this mold are the forty-eight state constitutions which, in general, cite chapter and verse of the terms upon which a city may be constrained to live. There is nothing in all history to compare with this complete and absolute dominance of one political subdivision by another. The state may defy the federal government in a thousand different ways. But the city may defy the state at no point at all because it is a creature of the state. . . .

Obsolete Legal Position

"Standing on the eminence of the twentieth century and scanning the horizons in both directions, one discovers little change in the legal status of the city since the ancient time. And focusing more closely upon our own American city and its immediate precedents, nothing appears which suggests any substantial difference in the serf-like relationship which it bears to the states and the nation. . . .

"America then, for a long while, has ceased to be a 'rural' commonwealth. It is a late hour to be announcing how much her cities contribute to her well being. Not that the facts have not been known. But they have not been heeded!

* Available at $1 per copy from the United States Conference of Mayors, Paul V. Betters, Executive Director, 730 Jackson Place, N.W., Washington, D. C.

Clouds on the democratic horizon warn that a widespread understanding of the nature of the city is imperative, lest we drift into a trouble for which there is no known cure. . . ."

The City in Our National Economy

"The vital place held by the city in the national economy may be seen in the magnitude of its corporate operations as compared to those of the states. Consider how much 'business' the cities do in comparison with that of the states and the federal government. Back in 1932, before the federal government engaged itself so extensively in direct aid to its citizens and to its political subdivisions, the tax revenue of local governments (largely city revenue) exceeded the tax revenue of the federal and all 48 state governments combined!

"Since then, relief and welfare expenditures undertaken by the federal government and, to a lesser extent, by the states have soared to astronomical figures. Local governments, on the other hand, whose revenue-raising is strictly controlled by the states, were permitted to do practically nothing. Their increase in revenue between 1932 and 1941 was held to 2.5%, while federal revenue increased 313.4% and state revenues 138%. Much of the federal increase, however, found its way back to the cities as direct grants-in-aid. From the states came piteously little, despite the fact that perhaps two-thirds of the states' revenues came from the cities in the first place. . . .

"We are so accustomed to thinking of cities and states in terms of maps and geography that the true political and economic relationship is often obscured in the public mind. If we were to list the names of cities in order of their annual expenditures—in other words by the 'size' of the 'businesses' they conduct—we would have to list 35 cities before we would come to one whose annual expenditure was small enough to be exceeded by that of Nevada—the state with the lowest annual expenditure. . . .

"In the amount of money disbursed, we gain another perspective of the economic 'size' of our cities compared with our states. If you added together the annual expenditures of our first ten cities you would have an amount still greater than the total expenditures of as many as 29 of our 48 states! New York City expenditures alone exceed the combined expenditures of 22 states. Chicago and Detroit expenditures each exceed the combined expenditures of as many as 6 states. Philadelphia and Boston each exceed the combined expenditures of as many as 5 states. Washington, D. C., exceeds the total spent by 4 states. San Francisco and Baltimore each spend more than the combined total of 3 states. Nine lesser cities each spend the equal of 2 states combined, and 18 cities exceed in annual expenditure at least one state. . . ."

"The city has been extolled in song and verse and in inspired prose as the mother of men, yes, even as the mother of nations. It is in town and city that people have the closest and most frequent contacts with one another, here that they take on the characteristics of a family, here that they create a kind of municipal parenthood to administer the 'home' in which they live.

"No unit of government deals more intimately and frequently with the daily life of the majority of Americans than the municipality. It guards the citizen's home against burglary and fire, it protects him against disease, it looks to the purity of the water he drinks, the food he eats, even the air he breathes. It conducts the schools where his children are educated. It builds his streets and sidewalks and keeps them clean. It provides facilities for his recreation. It looks to his safety, his health and his welfare in a score of different ways.

Shortchanging the City

"The resident of a city may meet the state or federal government face to face only upon a few occasions during the year. But his own government is at his side every minute of every day. . . .

"The traditional way in which the state exerts its will over local government is through legislative action—making rules and regulations for the city's conduct as it goes along, with results which are charitable, indifferent or inimical, as the legislative mood may be. . . .

What Is to Be Done?

"An enlightened program of federal, state, and local integration and cooperation is urgently called for. Never in its history has this nation faced such a complexity of economic and social problems—hangovers from the depression days plus the immediate problems of conversion from war to peace. . . .

"The cities, the states, and the federal government each have an equal part to play in our future. None can hold the stage alone.

"And since it is in the cities that most of these problems exist, the city is more severely under stress than any other political subdivision. Every move and every effort toward readjusting our nation to peace must be focused more and more on the city because that is where the nation's principal economic interest lies."

Austin's Ten-Year Bond Program Approved

APPROVAL IN effect of the entire $18,173,000 bond program of the City of Austin, Texas, authorized at an election held May 7, has been obtained through a recent opinion of the Attorney General of Texas, approving $336,000 fire stations bonds, and by concurrence of Wood, Hoffman, King and Dawson, New York bond attorneys, in law questions involved in the fire stations issue.

Fourteen tax bond propositions were submitted in the May election, and all issues were approved by more than a majority of the voters. The Austin charter contains a provision requiring a two-thirds' majority, although the state law empowers Texas "home rule" cities such as Austin to issue bonds on a majority vote. Only four of the fourteen propositions submitted in Austin received a two-thirds' majority.

The inconsistency existing between the city charter and the state law was resolved by the Attorney General in favor of the state law, and a simple majority was held to be sufficient for the issuance of any of the bonds.

Of the fourteen propositions now regarded as authorized by the May election, the largest issue submitted was $7,146,000 for public schools. An issue of $3,000,000 was submitted for enlargement of the municipal hospital plant. Public buildings, exclusive of schools and hospitals, were authorized for $1,176,000 in four issues. Also included in the bonds were $770,000 for the city's electric plant and system, and $1,480,000 for extensions to the water plant and system. An issue of $1,250,000 was voted for a low-water dam in the channel of the Colorado River to be equipped with a hydro-electric plant. Improvements to the sanitary sewerage system were authorized for $860,000. Street and bridge improvements, including bonds for right-of-way purchases in connection with state highway in Austin, were authorized in two issues which totaled $1,673,000.

The Austin bond program is a ten-year plan, the bonds to be issued as needed and as the city is able to finance the issues during this period.

TRUEMAN E. O'QUINN
City Attorney, Austin, Texas

Living Memorials Advocated by Mayors' Conference

THE FOLLOWING resolution was adopted by the New York State Conference of Mayors and other Municipal Officials at its annual meeting held in Rochester on June 3-5:

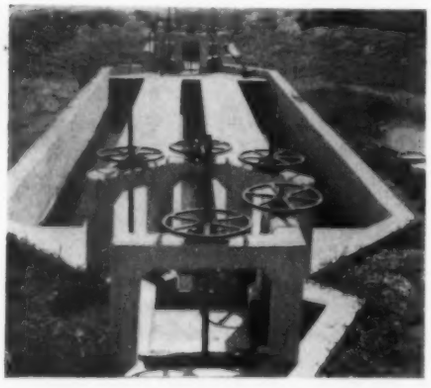
Resolved, that living memorials, such as memorial parks, playgrounds, etc., are a practical and sensible manner of paying tribute and honor to those who died or served in our wars. The Conference is especially in favor of such memorials when financed by popular subscription.

A Trickling Filter Plant Is Strengthened

Thomasville, Ga., uses high-rate roughing filter with a standard trickling filter to treat a strong combination of domestic sewage and trade waste.

THE SO-CALLED "complete" treatment was not complete enough to care for the sewage from Thomasville, Ga. When this city found itself faced with a dangerous, war-aggravated sanitation problem, officials were forced to depart from conventional designs to solve it.

Follow the cycle of operation as used by the Thomasville sewage treatment plant. First the sewage passes through this hand screened bar screen.



It then goes through a set of manually controlled grit chambers.

In 1940 Thomasville's population was 12,683. During the war this figure went up to approximately 16,000 because of the activities of various army installations located there. An army air base brought in about 1,700 military and 100 civilian personnel; the Finney General Hospital, expanded to accommodate 2,000 beds, brought in about 1,500 more; a resort hotel was taken over to house women employes of the hospital; and about 250 housing units were constructed to help care for the new population.

Septic Tank Badly Overloaded

Before this period the city was only partially sewered and the sewage was treated in a small septic tank before being discharged into Bruce Creek, a tributary of the Ochlocknee River. This septic tank, even with the relatively small load, was wholly inadequate. Bruce Creek becomes virtually a dry run during the summer months, and the Ochlocknee falls away to a negligible flow. Moreover the existing sewers served a locally-owned canning plant and a meat packing plant with their seasonally strong trade wastes, which required a plant that furnished something more than the standard secondary treatment. The design had to be rugged enough to absorb the shock loadings that these trade wastes imposed. The combined sewage contributed by the city and its industries had an average BOD loading of 480 ppm, so a treatment removing 99% was none too good.

In order to make sure that no health problem would arise, the sewer collection system also needed enlarging to take in the unsewered portions of the city. Most of these areas were served by outdoor privies; in some cases the inhabitants obtained water from open wells of the rope-and-bucket type.

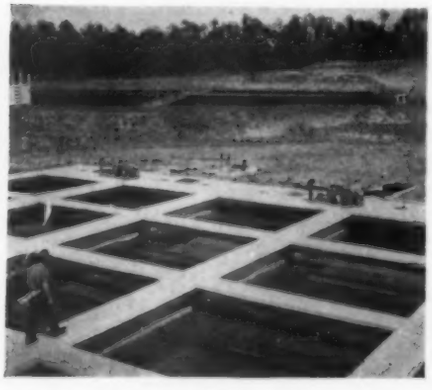
To remedy these conditions, the city called in the consulting engineering firm of Wiedeman and Singleton, Atlanta, Ga., who proposed to abandon the septic tanks, extend an outfall sewer to a new site, and construct a modern disposal plant. They also proposed to extend water mains to the densely populated portions of the unserved areas and to furnish sewer service to all except certain outlying areas where the cost of building lines would be out of proportion to the number of services.

Plant Design Data

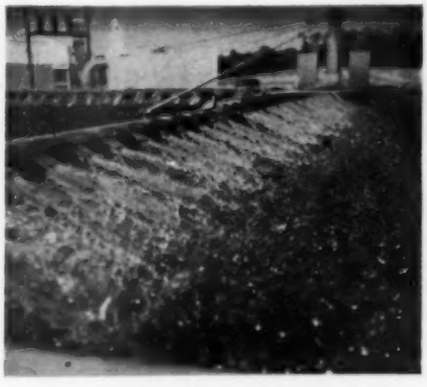
The plant that was constructed was designed for a hydraulic capacity of 1.6 mgd. The engineers anticipated a population of 16,000 and packing house waste resulting from the slaughter of about 750 animals daily. This would result in an estimated 3,750 pounds of BOD and 2,300 pounds of suspended solids daily contributed from the animals slaughtered. The total equivalent population was estimated at 31,000 in terms of BOD and 30,000 in terms of suspended solids.

The sewage enters the plant through a 24-inch line, passes through a hand-cleaned bar screen 9 feet, 4 inches long, and 2 feet wide, with one-quarter-inch by 3-inch wrought iron bars, and one inch clear openings. The bar screen is laid on a 3:1 slope.

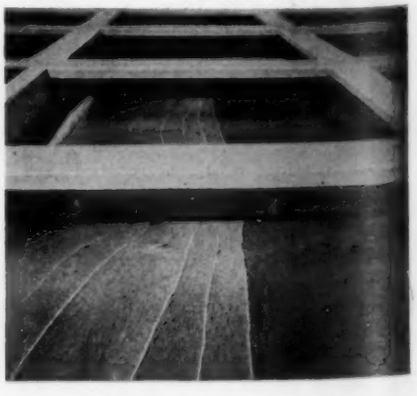
From here the sewage goes into any



The sewage then proceeds to the roughing, primary, and final clarifiers.



Supernatant from the roughing goes to the roughing filter



—and then to the primary clarifier to complete primary treatment

two of three grit chambers, each 30 feet long and 3 feet deep. The bottom channel of the chambers is 12 inches wide and 9 inches deep. The upper portion is roughly trapezoidal in conformance with conventional design, the upper width being 3 feet, 4 inches; the vertical sidewall, 1 foot, 6 inches; and the sloping portion, 9 inches. The grit chambers are hand-cleaned but are adaptable to mechanical cleaning equipment as well as mechanically-cleaned screens.

When the sewage leaves the grit chambers it goes to the clarifiers through a 24-inch line. There are three pairs of clarifiers—one for primary settling, one following the roughing filter, and one final tank. All are built together and each furnishes 2.5 hours detention at the design flow. Each of the primary clarifiers measures 18 feet across and is 70 feet long and 12 feet deep with an 8-foot, 9-inch water depth. The sewage enters them through a series of nine 2-inch vertical slots 2 feet long. The sludge is drawn by American Well Works collectors into a pair of hoppers 6 feet deep.

From the primary clarifiers the sludge goes by gravity to the suction of the three domestic sludge pumps. These pumps use the positive displacement principle and have a capacity of 75 gpm. The pumps transfer the sludge to a single digester 55 feet in diameter and 20 feet, 6 inches deep. The digester is furnished with heating coils consisting of five loops of galvanized iron pipe 2½ inches in diameter. The digester has PFT flame traps, waste gas burner, and floating cover.

Digester Gas Used

The gas from the digester is used to maintain optimum digestion heat and to furnish hot water to the plant building. A Roots-Connersville meter measures the gas generated and a Powers regulator records the temperature in the digester. Two 25 gpm-pumps pump water through the digester coils.

The original plans called for two digesters, however one was eliminated because of lack of funds. The two digesters were designed to furnish 3.5 cubic feet per capita for the 30,000 equivalent population.

After digestion, the sludge goes to sand beds for dewatering. There are 8 beds, each 25 by 100 feet. The filtrate from them is drained back to the primary clarifier. The sludge bed design unit was 0.667 square feet per capita.

The settled sewage from the primary clarifiers goes to the roughing filter by way of a dosing siphon. This filter is 90 feet in diameter with a 6-foot average depth. Its designed hydraulic loading is 11 mg per acre per day; its BOD loadings are 2.27 pounds per cubic yard or 3,650 pounds per acre-foot.

The filtrate goes to a second set of clarifiers adjacent to the primary clarifiers. These are similar to the primary clarifiers except that they are 16 feet wide and have a 10-foot water depth. Sludge from them goes to a sludge well where it is either returned to the primary tank for resettling or sent to the digester.

The effluent from the second clarifier is pumped to the final trickling filter which is 167 feet in diameter and has a 6-foot rock depth. Its hydraulic loading is based on a rate of 3.2 per acre per day, and its BOD loading at 0.37 pounds per cubic yard of rock or 600 pounds per acre-foot. The filtrate then goes to the final clarifier with dimensions the same as the secondary and similarly equipped. The effluent from this tank is discharged through a 24-inch outfall to the Bruce Branch of the Ochlocknee River.

The plant requires the use of four major pumping units other than the sludge pumps. These are turbine-type Pomona pumps, located back of the clarifiers, each having a rated capacity of 1,100 gpm against an 18-foot head. The sewage is metered at only one point—after it goes through the primary tank; at this point it passes through a 12-inch Parshall flume equipped with Builders-Providence recording equipment.

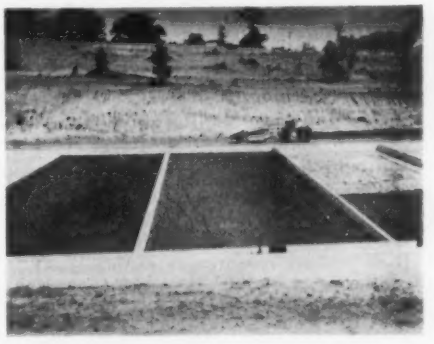
Design Permits Versatility

The design gives a great deal of versatility to the handling of the sewage, allowing it to treat peaks of as high as 4.8 mgd if necessary, or three times the design flow. When this maximum is reached the filters are operated in parallel.

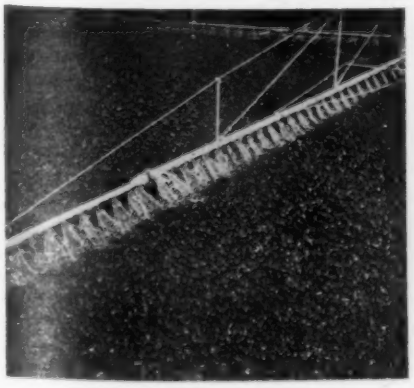
The plant has a fully-equipped laboratory. All buildings are brick with a frame roof construction.

The plant was constructed by Scott Construction Co., Thomasville, Ga. C. E. Layton is city manager of Thomasville.

Here is the control house that handles the operation.



Open sand drying beds serve adequately in this southern city.



—and finally to the secondary filter and clarifier.

This type of treatment requires a good deal of sludge pumping.

At present there is one digestion tank. Installation of another is planned.

How Much Can a City Afford to Spend to Save Its Life?

***Two comments on the article by Jacob Baker under this title published in* The American City *for June* 1946.**

The Stake of Local Business Interests in in Community Planning

To the Editor of The American City:

IN THE June issue of The American City Jacob Baker apparently undertakes to convince business men of the practical economic value that exists for them in city planning. I say "apparently" because it is not clear to me that his remarks are directed primarily to the business community, although he uses its language. His effort is a laudible one, for no other segment of the population possesses so much in the way of immediate means for thorough planning as do the financiers, industrialists, and merchants of the community.

However, a business man in reading the article would probably be basically more confused than convinced. He would get the idea that "everybody" in an industrial city can afford to spend some money to increase his "stake" in the community. Yet this just isn't so. Not one industrial city is without its large group of citizens who can barely afford to procure their subsistence, let alone contribute toward civic improvement. Mr. Baker's article refers to the purchasing power of the people in the city. In formulating his answer to "How Much Can a City Afford?" I should have liked to see him develop the economy of planning in terms of purchasing power rather than total wealth. Many a rich industrialized city suffers from serious community problems which are much less acute, or even non-existent, than high-grade residential towns that are poorer (in total value). Could this be because of a difference in citizen purchasing power?

Profits from Non-Profit Expenditures

The businessman-reader would perhaps be further confused by the notion that investments in the planning and improvement of a city may be evaluated just as one would evaluate the investment in a business or farming enterprise. Is it reasonable to say that no community expenditures "should be made unless they have the probability of a 6% or 7% return"? Although many projects carried out under a community plan will show a direct financial return, how many public recreation fields, schools, libraries, health centers, etc., can show that sort of profit?

The businessmen in our cities do not require to be converted to the idea of receiving an immediate return on every investment. What many are beginning to realize is that immediate returns are often not sufficient basis to make a financial investment sound. City planning action is being supported by chambers of commerce, industry and the general business community because it is becoming clear to the private entrepreneur that making *non-profit* expenditures for public improvements is one of the primary ways in which a community can be turned into a safe locale for private investment. As this simple truth gains recognition, comprehensive planning receives more and more support from business.

The article makes an excellent point in decrying piecemeal planning and improvement. Nothing can replace a comprehensive city plan. Yet, in the absence of such a plan, even a devout planner, if he is realistic, cannot help but concede that some improvement is better than none at all. Furthermore, even with a plan, improvement must generally take place in piecemeal fashion. The real danger occurs when partial efforts, such as zoning, public works programs, or programs of industrial expansion, are regarded as over-all planning and are used as an excuse for not formulating a master plan. Both the general plan and the partial improvements are needed, and it is highly advisable that the latter be based upon the former.

One of the central problems in preparing and implementing a master plan is the status of community support. Mr. Baker recognizes this problem in saying that "only by action based on the unified judgment of the community . . . can a city area secure its full share. . . ." Not so long ago I encountered a situation where the business people in a town were all for a city plan, while the city "fathers" and elected officials were not so favorably disposed, and nothing had been done. Unity of objective and judgment would certainly help greatly in such communities. Yet one wonders whether a completely unified judgment is ever a real possibility. Might it not be wiser to accept the existence of differences of viewpoint, and if comprehensive planning has some substantial support in the community, proceed to build it up from that? After all, a plan can do much to demonstrate its own worth to the doubtful.

In one place or another Mr. Baker makes some of the points that I have noted here. The article is a stimulating one and I hope that you will have others on the same subject in the future.

ARTHUR BASSIN
Bassin, Cheskin and Tokarsky
Architects, Engineers, Planners
Chicago 5, Ill.

The City As a Production Unit

To the Editor of The American City:

IN HIS article "How Much Can a City Afford to Spend to Save Its Life," in your June issue, Jacob Baker makes provocative use of that most arresting of all symbols, the American dollar, to call attention to the tremendous stake that various groups have in the future of their city. By treating the city as an economic entity not unlike a business or a farm, Mr. Baker provides a medium not only for reaching the ear of many who are normally indifferent to planning and programming for the city as a whole, but also for analysis on which soundly planned development can be based.

When the city is viewed as a single plant engaged in the production of goods and services, it may be possible to discover opportunities for sound future industrial development that otherwise might not be apparent. These opportunities, inherent in the existing industrial structure of cities, are those of integration. Integration opportunities and economies are familiar enough in terms of single plants or single firms comprising several plants. There is nothing new, for example, in the economies of incorporating in one corporation all the operations involved in processing raw material to the final product, of making several products from the same material, or of utilizing the labor more efficiently by adding products which can be produced during the slack season for the regular lines.

These integration opportunities, long employed by single corporations, are just as real on a community basis. Many industries in a city, for example, buy semi-processed products and components from elsewhere for further processing and assembly. The individual purchases may be small, but in the aggregate may be found to be sufficiently large to encourage the establishment of a local source of supply. Conversely, an enterprise may be founded to turn out a product utilizing existing

(*Continued on page* 123)

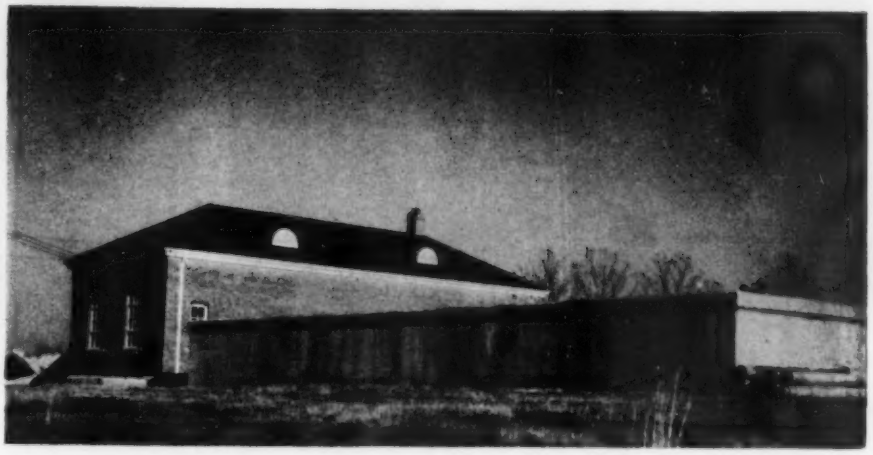
New Bern Finds New Well Fields

Geological studies uncover well fields for New Bern, N. C., that are uncontaminated by salt intrusion.

THERE were two reasons that made New Bern, N. C., practically rebuild its water supply system during the war. The first was that its population had grown, in a few short years, from less than 12,000 to more than 24,000. The second was that the existing well supply, tapping a gravel stratum along the Neuse River, was becoming contaminated by salt. New Bern lies along the Atlantic coastline in an area where the land is flat and the tides easily seep up into the ground water supply.

W. B. Bartling, head of New Bern's Department of Public Works, tells of the way this happened. The city maintained five wells, and as one would become contaminated beyond 200 ppm of chlorides it would be abandoned and another would be drilled a little further from the river. Gradually perhaps they might have worked their way out of the area just drilling wells in this cut-and-dry method but it would have taken a lot of drilling.

Since the city needed more supply and needed it right away, Mr. Bartling decided on more direct and more sound action. Calling the U. S. Geological Survey, and Pierson and Whitman, Raleigh, N. C., consultants, he arranged for a study of the area on a share-the-cost basis, in order to determine accurately where the best quality water was to be found.

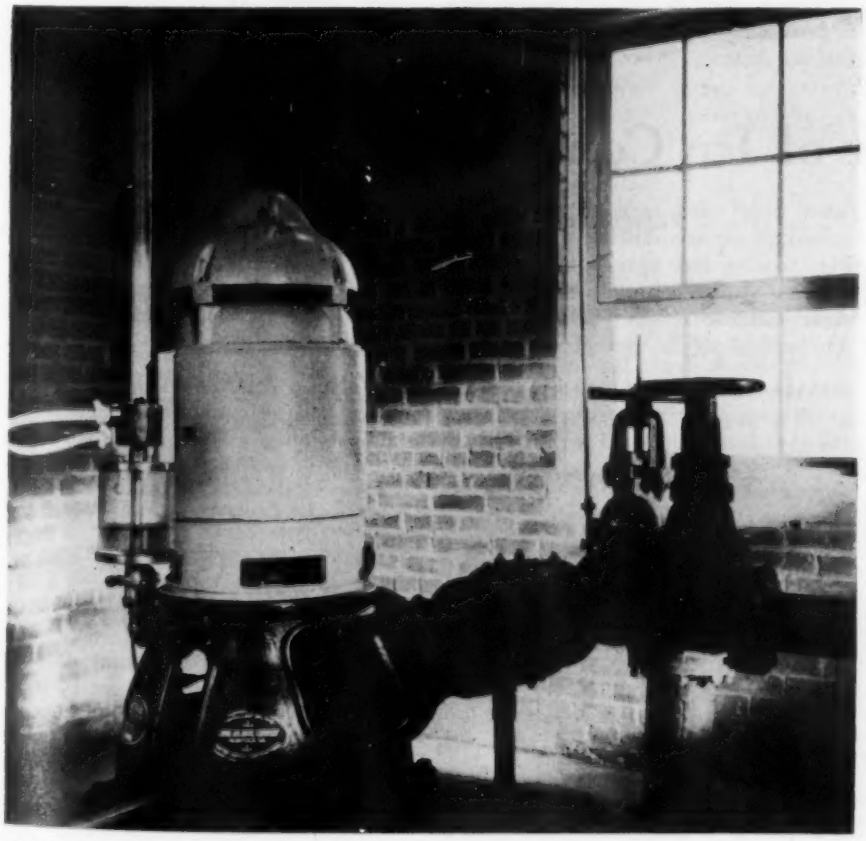


The concrete ground storage reservoir with pumping station in the background.

The Geological Survey made a number of test borings in the area, examined several existing wells both for the quantity of production and the quality of water, and finally uncovered an area about two miles north of the city that met their requirements.

In this area, the first 15 to 20 feet contains soil that varies in texture from top soil and sand to clay, then to water-bearing sand, and then to a stratum of shell rock. This first stratum of shell rock varies in thickness from five to twenty feet. Under this stratum of shell rock there is a layer of water-bearing sand about ten feet thick, and not of good quality. Below this layer of sand is the second stratum of shell rock from thirty to sixty feet thick. Under this second layer of rock, they get their water from a good layer of water-bearing sand. They drove a well casing into this second stratum of shell rock, thereby sealing off all surface water and also, the first layer of water-bearing sand.

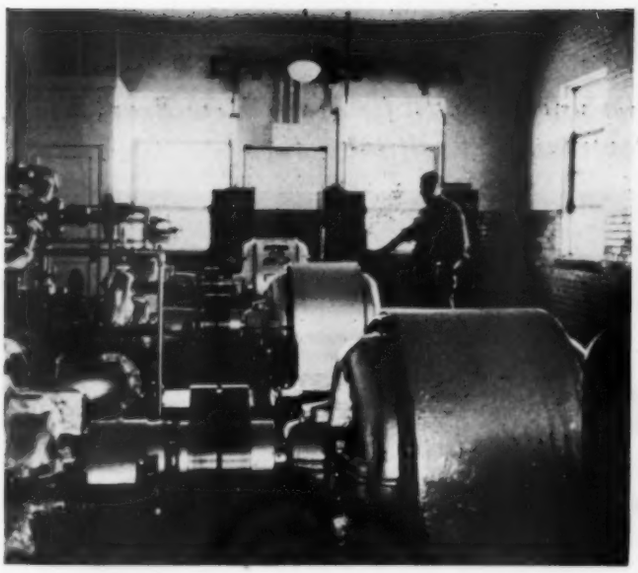
Utilities head Bartling took care not to space his wells too close together. He realized that this field represented a vitally important part of the community's existence, and if the demand on it became heavy from a number of closely spaced wells, salt intrusion might again occur, damaging the entire field. He drilled eight wells, each 90 to 115 feet deep and measuring 10 inches inside diameter, equipped each with Layne-Atlantic deep well pumps, spacing each about a quarter of a mile apart.



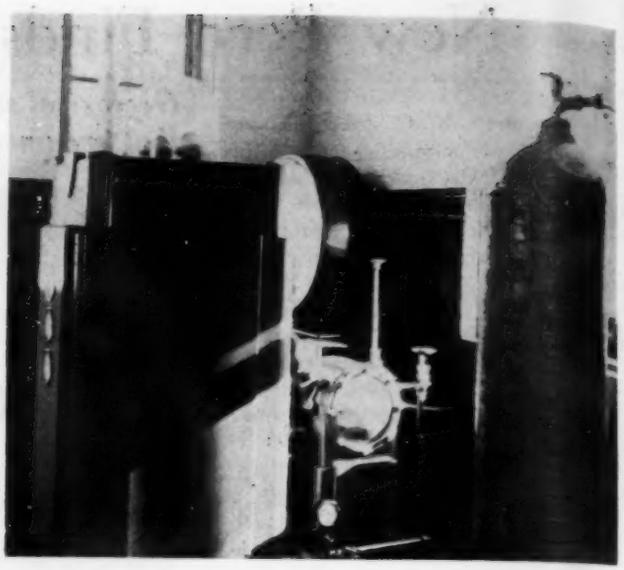
This is one of the wells whose location was selected on the basis of careful geological study. A Layne-Atlantic well and pump delivers the water to the reservoir.

How the Water Is Treated

These eight wells discharge into a central concrete ground storage reservoir holding 300,000 gallons, and from there three electrically powered Morris pumps, one 700-gpm and the other two 1,400 gpm, pick it up and deliver it to the city distribution system. While



W. N. Valevais, plant operator, takes a hand at the controls of one of the Morris pumps serving the plant. This plant delivers the water to the city's distribution system.



The New Bern plant supplies both chlorine and ammonia through Wallace & Tiernan chlorinators to give a chloramine residual throughout the city's system.

at this pumping station the water receives chloramine treatment through a pair of Wallace & Tiernan feeders, one serving chlorine and the other ammonia. Two Simplex recording meters record the flow of water through the reservoir, one measuring the water as it flows into the reservoir and the other measuring it as it leaves.

The new system required a 14-inch main connecting it to the existing distribution system which the city constructed of Transite pipe. Mr. Bartling plans another main in the near future that will connect the other side of town with this supply main and thus avoid the existence of dead ends in parts of the system.

City Plans Further Improvements

Actually, the recent improvement is only a step in the ultimate development of the water system. The water is hard and needs treatment, and the pumping plant is laid out so that this improvement can be made when conditions dictate. Also, the city should have more overhead storage. However, neither of these could be supplied during the war since WPB officials ruled that the improvements, although desirable, were not vital to the city, and that the use of a lower quality of water, if bacteriologically safe, would serve adequately.

This improvement was constructed with FWA assistance since nearby army and marine camps made the work necessary. Pierson and Whitman of Raleigh, supervised construction.

Checklist of Ice Control Principles

THE FOLLOWING list of ice control principles appeared in a report on the treatment of icy pavements made by the American Road Builders' Association:

Methods—The combination of abrasives plus chlorides is the most popular, although many cities report partial use of the bard pavement method using straight chemicals only. The latter method is particularly useful during light snows or sleet storms when the temperature is just below freezing.

Amount of Chlorides—The amount varies from 25 to 200 pounds per cubic yard of abrasive. Engineers have difficulty justifying the higher figures, however. They probably will account for much of the damage that pavements suffer because of chlorides.

Abrasives—Cinders are still dominant, although sand is gaining in popularity. Some specify a washed sand with 100% passing the ⅜-inch screen. Some use dustless stone screenings passing the ⅜-inch. The use of cinders requires an investigation of their sulphur content which can be detrimental to the pavement.

Storage—The use of covered bins is gaining popularity particularly when the abrasives are treated with chlorides.

Dry Flakes vs. Solution—Chlorides combined with abrasives act first to melt the ice and secondly to anchor the abrasive. In either case it cannot act unless in solution. Thus, if the abrasive does not contain sufficient moisture to dissolve the chlorides, the best practice would dictate the use of a solution.

Scaling Caused by Chlorides—The use of air entraining cement or a combination of portland and natural cement has helped a great deal to eliminate this effect. Evidence exists which shows that calcium chloride, when used as a surface-curing agent, actually hardens the surface and reduces the tendency to scale from whatever cause. The proper control of chemicals should not cause serious detriment to the pavement.

Applying Abrasive—Some type of machine spreading is more effective and more economical than hand spreading.

From a Committee Report on the Treatment of Icy Pavements by the American Road Builders Assn.

Ft. Payne, Ala., Enlarges Treatment Plant

SEWAGE AND industrial wastes in Ft. Payne, Ala., will get both primary and secondary treatment as a result of a project just started which will enlarge and recondition the present primary sewage treatment plant.

The city also is in the process of enlarging its sewage collection system. The work is about 75% complete.

Catching Up With Frederic A. Delano

NEARLY TEN years ago (in January 1937) THE AMERICAN CITY published an article by Frederic A. Delano, whose far-sighted wisdom is at last coming to be realized.

Its objective was to formulate a policy which would at once "stimulate public housing and tend to remove the evils that make it necessary."

The article was headed "To Meet the Housing Needs of the Lower Income Groups. A Tentative Program for Federal Cooperation with Local Governments and Private Enterprise." Here are three significant paragraphs:

"Governmental activity should always be carefully restrained from encroaching on the natural or proper scope of private enterprise. Furthermore, one of the principal housing functions of the Federal Government should be the encouragement of private construction. . . .

"The federal government might properly offer to pay a certain percentage of the cost of acquisition of land by municipalities, on condition that the municipality, in using such land, should take suitable precautions to insure the sound development of the neighborhood. The federal government should be careful not to subsidize the development of neighborhoods of jerry-built houses, nor of surplus residential sections, nor of poorly planned communities. It should offer financial assistance only when municipalities follow a proper and well-considered housing and land-use policy. . . .

"The traditional constitutional methods of federal guidance of local authorities are consistent with the most effective long range housing policy. A program providing for decentralization of initiative and control, administered under careful supervision, and supported by federal funds, so that the local systems of taxation will not be asked to bear an impossible burden, will be most economical and efficient in remedying our complicated housing troubles."

This 4-page article was the subject of a recent discussion at the Public Administration Clearing House, in Chicago, and THE AMERICAN CITY has been urged to make reprints available. Who wants a copy?

Another Forward-Looking Statement

EARLY IN 1933 the Architectural League of New York held a Housing Exhibition prepared by a committee of which Clarence S. Stein was chairman and Catherine Bauer secretary. From the statement issued to the press in that connection, these sentences are quoted:

"The modern dwelling house is a unit in a neighborhood community. To design a house that will accommodate all the needs of modern living, one must also design the community. To build such a community effectively and cheaply, one must do it, where possible, in a single operation from the purchase of the raw land to the final plan and construction of its shops, schools, playgrounds, and other communal facilities.

"When one considers such essentials of good housing, as sunlight, air, gardens, play space, recreation facilities, streets isolated from noisy through-traffic, access to parks or open country, it is plain that only a united and comprehensive attack upon the entire problem of housing offers a path of genuine advance."

For Community Activity on Human Rights

A CALL TO LOCAL organizations to conduct a widespread program of discussion on the work of the United Nations Human Rights Commission has been issued by the American Association for the United Nations (45 East 65th Street, New York 21, N. Y.) through its research affiliate, the Comission to Study the Organization of Peace.

In a pamphlet "Guide to Community Activity on Human Rights" the Commission points out that:

"There is a great task of education and mobilization of public opinion so that the promise of the United Nations may be more than a scrap of paper and may become a vital and living part of the life of the world."

The pamphlet offers definite suggestions for study and action, together with background facts on human rights, and a helpful bibliography.

Shall We Have Airplanes as War Memorials?

To the Editor of THE AMERICAN CITY:

MAY I suggest that THE AMERICAN CITY sound a note of warning against a threatened trend in war memorials, whose adoption would, I am sure, be a source of future regret to many cities?

The War Assets Administration has recently announced that, "Many requests that historic planes be preserved and delivered to cities which have a special interest in them has led the WAA to search its surplus aircraft storage fields for all bombers and fighters which bear the names of cities, which were flown by local heroes, or which have other significance to municipalities. The War Assets Administration is authorized to make surplus planes available to states and local governments for memorial purposes at nominal costs. Certain types of big guns and small tanks are also available at nominal prices."

Surely, we can do better now than to repeat and intensify the rash of cannon and other war trophies that began to disfigure the lawns of town halls and court house squares following the Civil War some eighty years ago.

There is, of course, much commendable local interest in airplanes which have historical or sentimental associations with the community. But how much of that sentiment will survive through future generations? And in any event, is not the service of peace to be preferred to the glorification of war?

RHEA M. ECKEL
Executive Secretary
New York State Citizens Council
Syracuse, N. Y.

June 25, 1946.

Madison, N. J., Wants No Billboards

UNDER AN amendment to its Zoning Ordinance, adopted June 10, 1946, Madison, N. J.—a suburban municipality of about 8,000 population in the New York metropolitan area—has determined to restrict future permits for outdoor advertising throughout the entire community to signs relating to an activity or business conducted on the premises. The amended section on Signs and Billboards reads as follows:

"In Residence "A," "B," and "C" Districts, no stationary signs or billboards shall be permitted except customary small professional signs, and except real estate signs not more than 8 square feet in size on properties advertised by such signs. In the Business Districts and Commercial and Industrial Districts, no signs or billboards shall be permitted except when not greater than 38 square feet in size and advertising a business or process conducted on the same premises. No free-standing sign or billboard greater than 24 square feet in size shall have less than 2 feet nor more than 3 feet of open space along its entire length at the bottom. All stationary signs, billboards or advertising devices shall also be regarded otherwise as buildings or structures within the meaning and regulations of this ordinance. Advertising display upon a barn or other building or structure shall be considered as coming within the above regulations.

"The number of square feet of any sign or advertising device shall be computed by measuring its longest horizontal and vertical dimensions, so that the area shall be a rectangle which shall include all parts of the sign or device and its supports above the ground or above or extending from a building or structure or the part thereof to which it is affixed, whether or not the entire space is occupied or covered by such sign or device and its supports. If more than one side of a sign or device is used for outdoor advertising display, the computation of the area shall be increased accordingly. Advertisements sculptured or modeled in the round shall be treated as using three sides."

Detroit's Airport Plan

Studies indicate that by 1960 Detroit will need 37 airports of all classifications. Here is a discussion of the recommended designs and locations selected for different types.

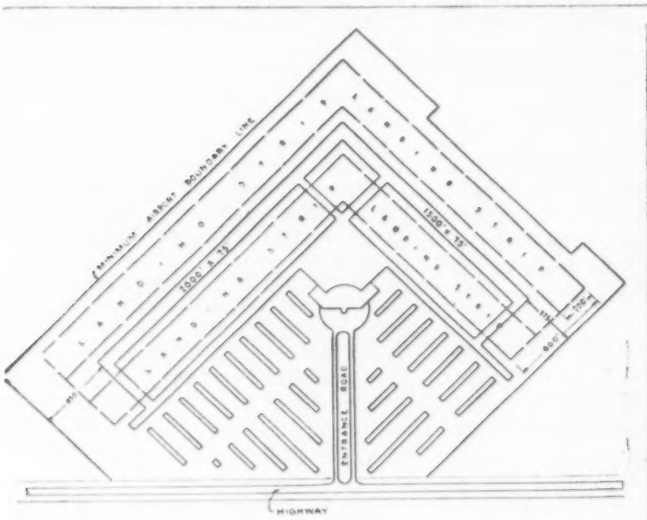
DETROIT airports for the future will fall into four classifications, according to studies made jointly by consulting engineers Horner and Shiffrin, of St. Louis, Mo.; and Smith, Hinchman and Gryllis, Inc. of Detroit. These classifications are: major, intermediate, minor, and personal plane ports.

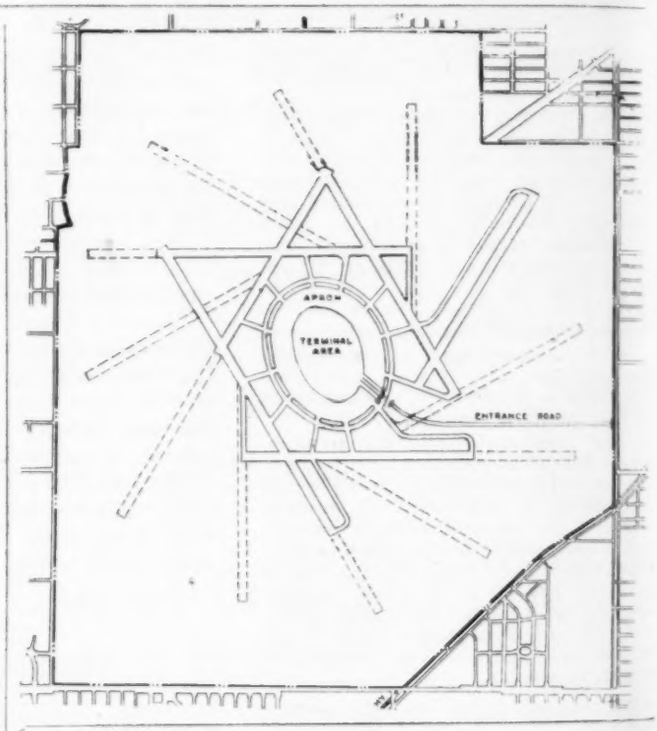
The designs recommended by the consultants for the Detroit Metropolitan Aviation Planning Authority call for fields utilizing three-directional runways, except for the personal plane field where two directions appear adequate and about all that can be justified economically. Under a three-directional plan, one runway is considered the "principal" with a length that is adequate under all weather conditions. Zoning obstacle ratios or the principal runways are a controlling factor. The recommendations follow:

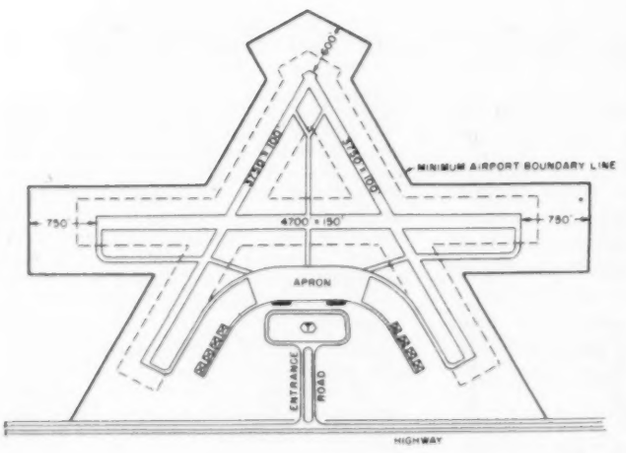
Airport	*Runway*	*Obstacle Ratio Desirable*	*Obstacle Ratio Permissible*
Major	7,000 ft. plus (Instrument landings)	35:1	28:1
		50:1	43:1
Intermediate .	4,500 ft.	30:1	23:1
Minor	3,000 ft.	25:1	18:1
Personal flying	2,000 ft.	18:1	13:1

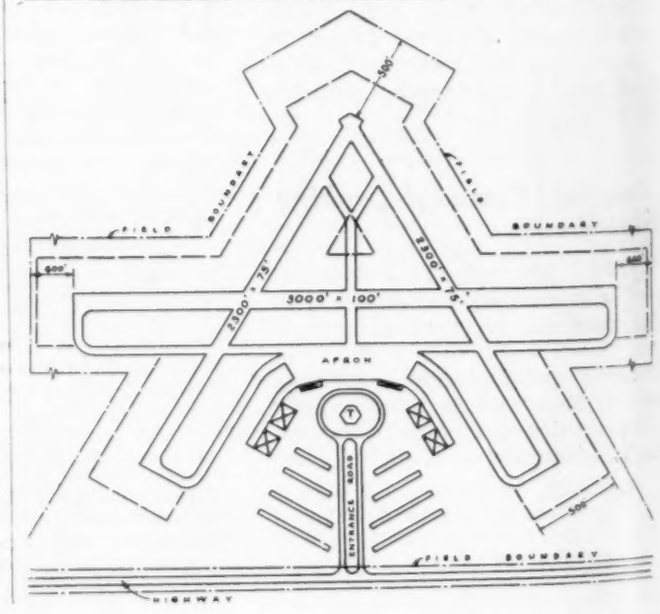
Secondary Runways

Secondary runways will be designed for less length since they will not be used unless cross-winds render the principal runway unusuable, and these cross-winds will have head-wind components on one or the other secondary runway. The consultants recom-









Four typical airport designs that were recommended by the consultants in their recent report to the city of Detroit. UPPER LEFT: *The personal flying field, or airport designed to provide storage for 300 personal planes.* UPPER RIGHT: *A minor airport that can care for 100 personal planes and 100 commercial planes.* LOWER LEFT: *An intermediate airport.* LOWER RIGHT: *One of the major airport designs using the tangential runway principle.*

mended the following for runway lengths and for obstacle zoning:

Airport	Runway	Obstacle Ratio Desirable	Obstacle Ratio Permissible
Major	5,200	30:1	26:1
Intermediate	3,750	25:1	20:1
Minor	2,300	20:1	15:1
Personal flying	1,500	15:1	10:1

Recommendations of the consultants indicated that in view of improvements in airplane design, particularly in landing gear, runways somewhat narrower than 200 ft. would serve satisfactorily in most instances. For major airports, they recommended 150 ft for open contact operations and 200 ft. for instrument landings; for intermediate airports, 100 ft.; for minor, 75 to 100 ft.; and for personal planes, 50 ft.

The number and location of airports required careful study. Before recommending a major airport, the consultants prepared a master plan of the secondary ports and reviewed the effect that each major site might have on it. The minor airports in the inner circle of development will probably serve only business-owned planes and a certain amount of personal flying. Those in the outlying areas will serve not only the business-owned planes and personal flyers, but also will be used for some operations as feeder lines and air-bus service.

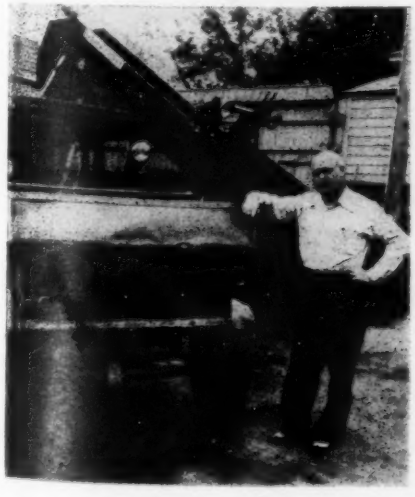
There were 22 personal flying fields recommended. The consultants placed them as near as possible to the concentration of potential plane owners.

As far as major airports are concerned, the consultants were greatly impressed with a location on the Canadian side, identified as the "International Site." In terms of convenience to travellers, to distance from the center of gravity of the users, and to long-range regional economies, the site is outstanding. The great difficulty that it presents is its international complications. Consequently, a second site, the Gulley-Ford Road site was recommended since it could be constructed immediately. This recommendation was made, however, with the further consideration that Canadian authorities be encouraged to develop the International Site in such a manner that it could be developed into an international port when diplomatic negotiations allow it.

Extra Skid Protection at No Extra Cost

By EDWARD F. MORGAN, JR.
Supt. of Streets, Hudson, Mass.

HERE IN HUDSON we like to provide a more personalized type of service for our neighbors than is usually possible in larger communities, and we have worked out a few important extras that have served us very well and have built up considerable good will in the town. For one thing, during the winter we give top priority to snow clearance in front of churches, cemeteries and homes where there has been a death in the family. As soon as the snow begins, our men go out and spread rock salt on the sidewalks and streets at these points, and the plows follow through as promptly as possible. You'd be surprised what a good impression such thoughtfulness creates. For another, we also furnish a rock salt and sand mixture free to home owners who want it to spread on icy porch steps, sidewalks and driveways to help them solve their own snow clearance problems. By using up-to-date techniques and careful organization we do both these things—and a great many more that don't come under the heading of "extras"—and do them on our regular budget.



Superintendent Morgan with some of his snow removal and skid protection equipment. In the foreground is the salt and sand spreader. A Barber-Greene snow loader is in thebackground.

The problem of spreading a modest income over large mileages is not a new one in road and highway economics. With a serious shortage of equipment, however, we've had to eliminate all variables that usually are included in cost estimates and have had to find a fast, low-cost method of providing adequate snow clearance protection. Efficient handling of available equipment plus extensive use of rock salt as a snow and ice remover has enabled us to save money and keep open many miles of paved and unpaved streets. Rock salt is less expensive to use than sand, fewer men are needed to apply it, and, generally, one application is sufficient. Besides, it doesn't have to be dug out of the sewers in the spring.

When we have light snows and freezing rains we send out the rock salt trucks alone. Plowing is not necessary then, and time and money are saved. We use two trucks with automatic salt spreaders attached to the rear to distribute the rock salt over 20 miles of streets and some 15 bad hills in town. This is about one ton of salt for every 5 miles of road. Each truck requires only the driver and a helper in the back to feed the salt into the spreader as against the three men required for sanding the same area.

In an average year, Hudson has several ice storms and about 48 inches of snow, and we must be on the alert constantly from about the middle of November to the end of March. We maintain daily contact with the local weather bureau and as soon as storm warnings are received, our men go out with the salt trucks. When we have heavy storms, plows follow as soon as possible and streets are cleared from curb to curb, leaving gutters and driveways free of piled-up snow.

Britain Studies Trade Waste Charges

A NATIONAL POLICY for treating trade wastes was advocated recently before the Institute of Sewage Purification by John Hurley, manager and chemist of the Sewage Disposal Department, Wolverhampton, England. This policy has these aims:

1. To provide for the manufacturer to discharge liquid wastes into the public sewers subject to reasonable conditions and payment.

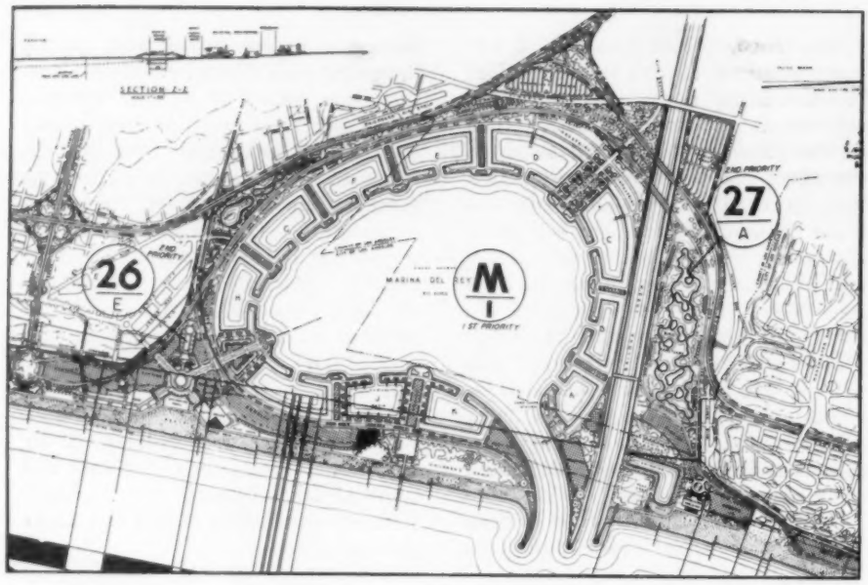
2. To make certain that retreatment of the effluent at the factory should be kept to the minimum while charges should not be excessive.

3. To regulate conditions of pretreatment and payment so that they apply to the entire country.

4. To allow manufacturers not to avail themselves of this service if the wastes that they discharge constitute a satisfactory effluent.

5. To see that the scheme should apply to all trade wastes whether discharged through old connections or new ones.

6. To discourage the setting up of industries in districts not reasonably capable of accepting trade waste liquors into the public sewers and affording adequate treatment.



Suggested yacht harbor for Los Angeles, a first priority project.

Along the Waterfronts

Cities from coast to coast plan shoreline and harbor improvements on ocean, bay, lake, and river

Part I

IT WILL not be for lack of planning in our major resort areas if the depredation of beach and shorefronts by erosion and pollution and through unrestricted private development is allowed to continue, and if the need for adequate park and public recreational facilities in many of our waterfront cities is not met in the years immediately ahead. Waterfront cities throughout the country are planning shoreline improvements, and recent wartime emphasis on the need for transportation, has brought a demand in many port cities for the redesigning of harbor facilities. This article will attempt to summarize some significant examples of these activities.

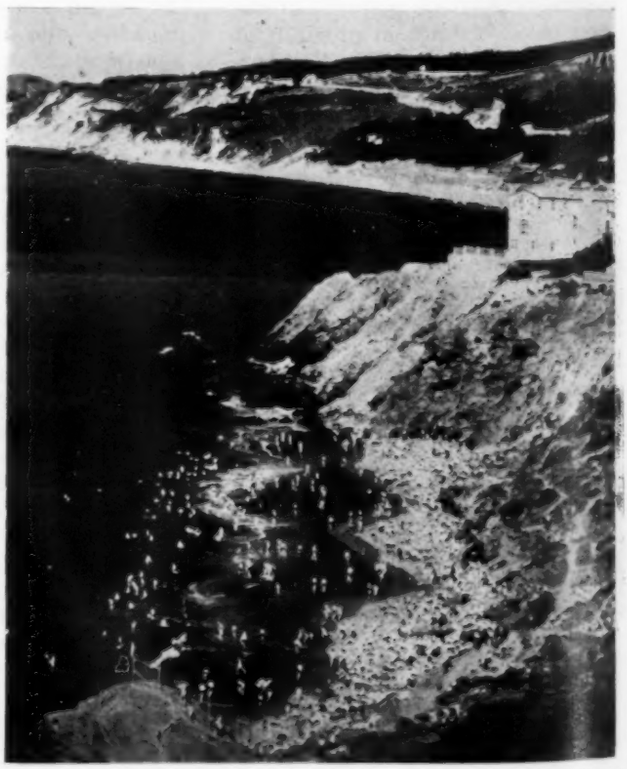
City-County-State Cooperation in California

In past years uncontrolled exploitation has permitted mile after mile of the ocean front of California to be covered with private clubs and houses, and undesirable commercial establishments have marred its beauty. Pollution from urban waste disposal has become an acute problem.[1] Improperly built waterfront structures have caused serious erosion in some areas. An attack on these problems has been made in the counties and cities that have the most famous resort areas—particularly the Santa Monica Bay area of Los Angeles County and the San Diego area. All the southern counties, San Diego, Orange, Los Angeles, Ventura, Santa Barbara, and San Luis Obispo, have made plans to place the public interest foremost. The movement has been given force in recent years by state legislation which has made funds available for developing a statewide master plan of waterfront control.

In 1941, through the efforts of the Shoreline Planning Association of California, a program formulating a policy of public acquisition and development of the shoreline for recreational purposes was approved by the state administration and legislature. The legislature appropriated $500,000 for this purpose to be matched by county or city funds, or private gifts. Six southern counties agreed to provide funds to deal with beach problems on a proportionate share of any funds appropriated by the state legislature. Adoption by the county of a master plan of shoreline development accept-

[1] See "Enlisting Citizen Cooperation for Sewage Treatment and Other Coastline Improvements," THE AMERICAN CITY, February 1945, page 78 and "Creation of East Bay Municipal Utility District in San Francisco Area," *Ibid.*, January 1945. In San Francisco solution of the problem of pollution has priority over any proposed shoreline activity.

LEFT: *Purchase of the beach just north of the pier will put all of Huntington Beach but the area with oil derricks in public ownership.*
RIGHT: *San Francisco hopes to acquire this beach area with the aid of state funds.*



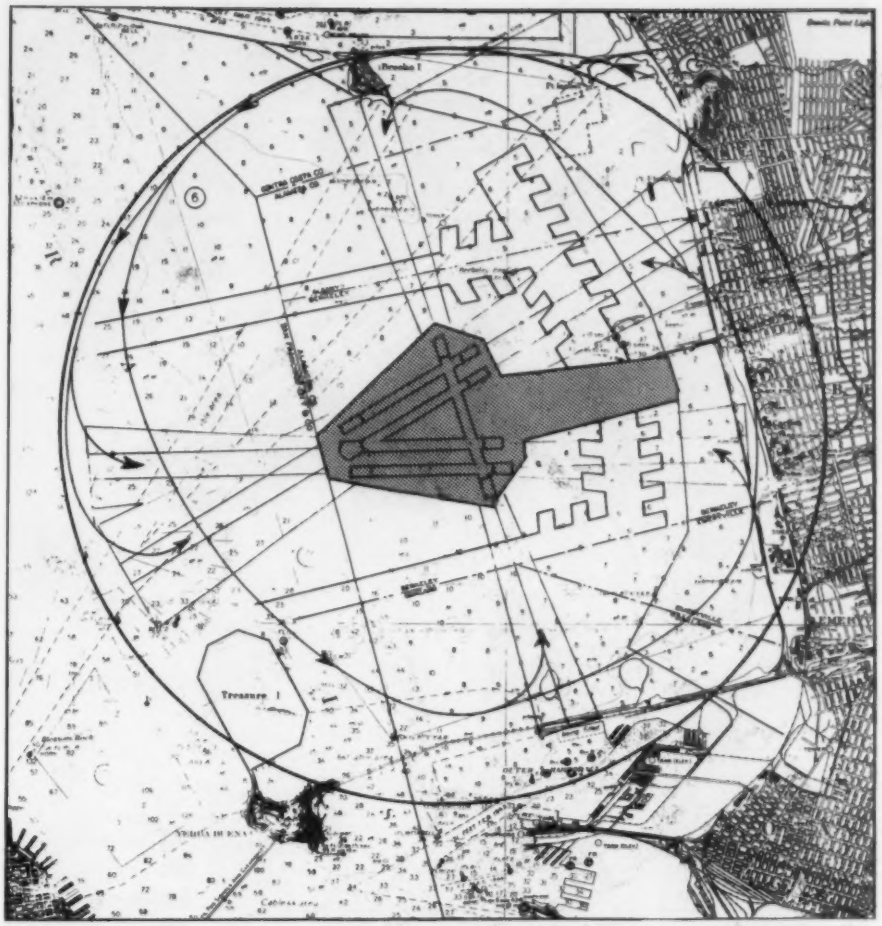
able to the state was necessary before funds could be granted.

The appropriation could be applied to the acquisition of beaches with title vested in the state, and also to beaches owned by counties and municipalities without transfer of title.

Legislation in 1945, when $10,000,000 was appropriated for beach acquisition, required each county to establish first, second, and third priorities for acquisition, construction, and repair of beaches. The Shoreline Planning Association was again active in the development of this legislation. All first first priority projects in the state must be tackled before second priority projects may be undertaken. Furthermore, any acquisitions must be matched with cash or in kind. These laws resulted in the adoption of master plans by the counties previously lacking them and in revision and restudy of the plans already in existence. Since 1943, when the proportion of oil royalties accruing to the state for maintenance and operation of beach facilities was made definite, funds which could not be expended because of wartime shortages of labor and materials have been accumulating and are now available for use in the next few years for beach improvements. Further impetus was given to California shoreline planning by the passage in July 1945 of federal legislation authorizing the Beach Erosion Board of the U. S. Army Corps of Engineers to make general investigations of shoreline problems with the expenses borne wholly by the federal government. The board may include in its recommendations for dealing with erosion problems its suggestions for the share of the expense involved in the proposed program which should be borne by the federal government.

At a recent meeting of the State Park Commission, a State Master Plan which correlates and coordinates the master plans of the fifteen coastal counties was approved. This plan, which was prepared by the state Division of Beaches and Parks, is the guide for procedure among state, counties, and cities in acquiring and developing beaches.

Furthermore, in accordance with the legislation of 1945, a land purchase officer has been appointed. This officer is now visiting county and city offices, thereby starting the acquisition procedure under the provisions of the master plans. In most instances the matching provisions are being met by cities and counties transferring previously acquired beach areas to the state in lieu of cash on an appraisal basis to establish equal value. The state in turn is purchasing privately owned beaches for an equal amount. According to George P. Larsen, executive secretary of the Shoreline Planning Association, it is anticipated that most of the transactions will be concluded by next January.



Plan of the proposed Golden Gate International Airport on the Berkeley-Albany tidelands on the east side of San Francisco Bay, as prepared by Berkeley officials.

Yacht Basin for Los Angeles

Among the most elaborate plans in process of development for California are those of the city of Los Angeles, where nearly all of the 14 miles of shoreline, exclusive of the commercial harbor, are already in public ownership. George Hjelte, superintendent of the Department of Playground and Recreation, writes THE AMERICAN CITY that "much artificial improvement is necessary before the recreational potentialities of the area can be developed. Groins need to be provided in certain locations to stem the process of erosion; additional sand available in large quantities on nearby dunes needs to be transported to the shoreline to widen the recreational beaches; pollution of the beaches at certain locations needs to be abated by the construction of a sewage treatment plant and extension of the outfall; parking areas and facilities for active recreation need to be installed; and better lateral highways should be constructed."

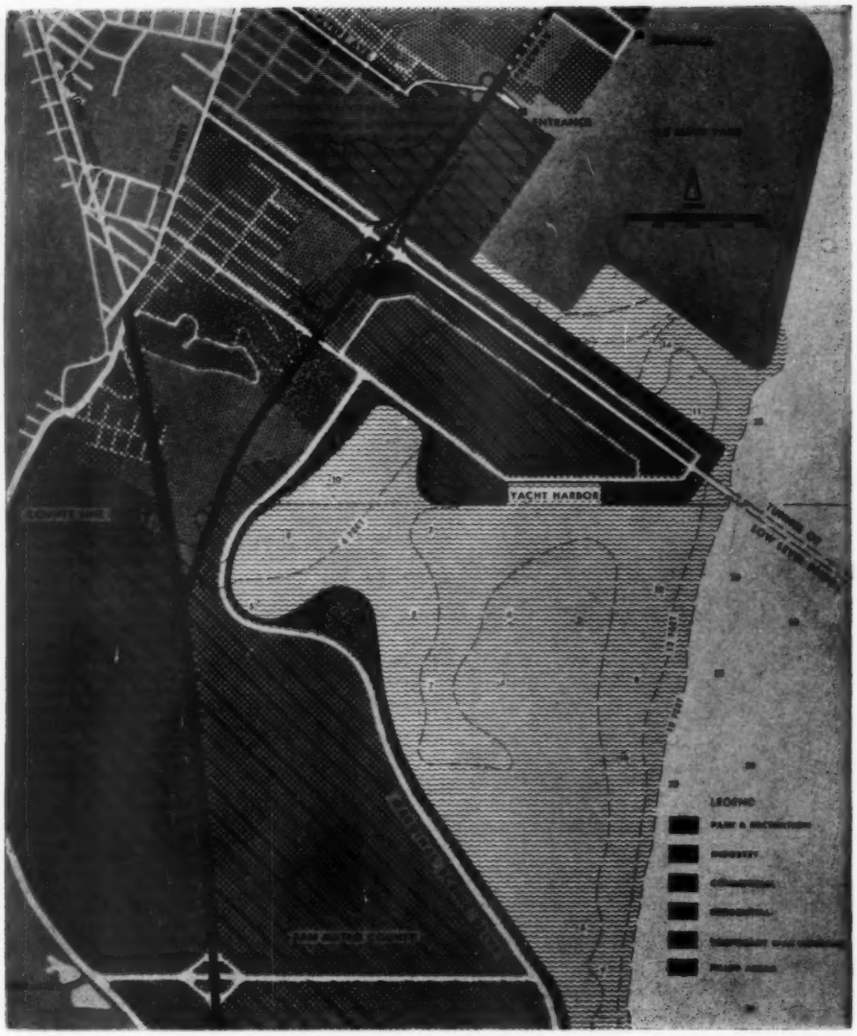
Elaborate plans have been made, Mr. Hjelte reports, for the complete rejuvenation and development of the city's shorefront for about 12 miles along Santa Monica Bay. It is expected that public appropriations will be supplemented by private financing for certain projects, notably the yacht harbor improvements, which will provide a safe inland harbor for several thousand pleasure craft. The program for acquisition of the parcels of the shorefront still in private ownership is progressing satisfactorily.

The plans of Long Beach, Calif., have been laid out to cover a twenty-five year period of development[3] and, like those of Los Angeles, encompass the eventual building of an extensive earth fill and a large rock mole and the building of a new sewer system.

San Diego's Mission Bay

The plan of the city of San Diego for development of the Mission Bay recreational area, for which the citi-

[3] See "Impressive Construction Program at Port of Long Beach," THE AMERICAN CITY, April 1945, page 97.



The Master Plan of San Francisco calls for redevelopment of the area south of Hunters Point along the lines shown in this map. Reclamation of the extensive tidelands in this area is considered to be one of the major shorefront problems.

zens have voted a $2,000,000 bond issue, is an example of the extensive plans to attract tourists that are being made by cities with ideal natural resources.

San Diego is a "navy town" and has therefore planned for an unusually difficult post-war adjustment because of the intensity of the concentration of wartime activities there. The Mission Bay development is one of the projects recommended in a study of the post-war problems of the community by Day and Zimmerman, Inc., Philadelphia, Pa. This plan calls for making the most of the shallow harbor by building a yacht basin, a new highway across the mouth of the bay connecting with the ocean-side Mission Beach, a hydroplane field, a ball park, picnic areas, a marine stadium, a golf course, and a wildlife reserve.

A report by the U. S. Army Engineers on this project has been incorporated in the River and Harbor Bill adopted by the Committee of Congress on Rivers and Harbors. The total cost of the project is estimated to be $14,680,000. The Army engineers recommended a federal expenditure of $5,858,000. The rest of the cost, $8,822,000 for navigation, flood control and park development, is to be borne by the city. The project includes the construction of a flood control channel to take care of floods on the San Diego River and divert the water directly to the ocean. It will extend from .4 of a mile above Morena Boulevard 3.3 miles directly to the ocean. The small boat harbor will have a separate entrance to the ocean with a depth of 20 feet with a main channel and turning basin.

San Diego's immediate plans call for starting work within the next few months on the construction of an industrial pier 600 feet by 1,100 feet, and for the full development of some 28 acres of adjacent tidelands, according to J. S. Brennan, port director. Required fill and dredge work will come first, then the wharf apron and flooring. The total cost will be about $1,500,000.

San Francisco's Many-Sided Approach

Almost 75% of the shoreline of San Francisco is already in federal, state, or local public ownership, and the city's program, therefore, unlike those of most of the southern counties, is not primarily concerned with land acquisition. There are many plans for recreational improvements, with a view to attracting more vacation and tourist business which call for more bathing beaches, small boat harbors, and the completion of the continuous shoreline drive. However improvement of the industrial uses of the waterfront is considered most urgent. The Planning Commission's report on shoreline development completed in 1943 (the first technical report ever prepared for publication by the city planning department), disclosed waste of space, inefficiency and conflicting uses of this part of the waterfront. The development of new forms of transportation is cited as the factor which will gradually produce the most far-reaching changes in the use of the waterfront. Agitation for a new bridge across the Bay is creating new interest in these waterfront problems.

Reclamation of the tidelands along the South Bay shore is one of the major problems of the city. The most extensive submerged lands in the city are in this area. The street system of the city here extends to the bay, platted in rectangular blocks with about 37% of the area in proposed public streets. The remainder is privately owned. The war has brought the navy yard in this part of San Francisco to a new size and importance and has accentuated the need for orderly street planning and zoning. Purchase price of the areas now being considered for redevelopment is estimated at $215,000.[1]

Survey work by the U. S. Corps of Engineers is underway on a tideland development of great importance at Berkeley, on the east side of San Francisco Bay. Here, on the Berkeley-Albany tidelands, a site has been approved as suitable for the national airport development program by the Civil Aeronautic Administration. The comprehensive long-range plan for airbase and harbor development prepared for their consideration and approval was largely the work of the city departments of Berkeley under the direction of City Manager Gerrit Vander Ende. The estimated total cost of the development is $11,514,430.

[1] From Report of the Citizen's Post-War Planning Committee to Mayor Roger D. Lapham, August 20, 1945.

(To be continued next month)

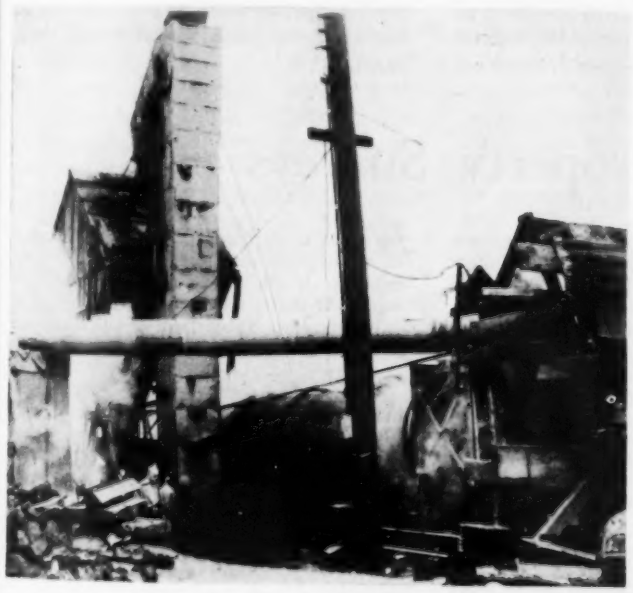
Low-Cost Street Construction Uses Local Materials

Anderson, Ind., stabilizes with asphalt emulsion and a local pit-run gravel to produce an all-weather street at 52c per square yard.

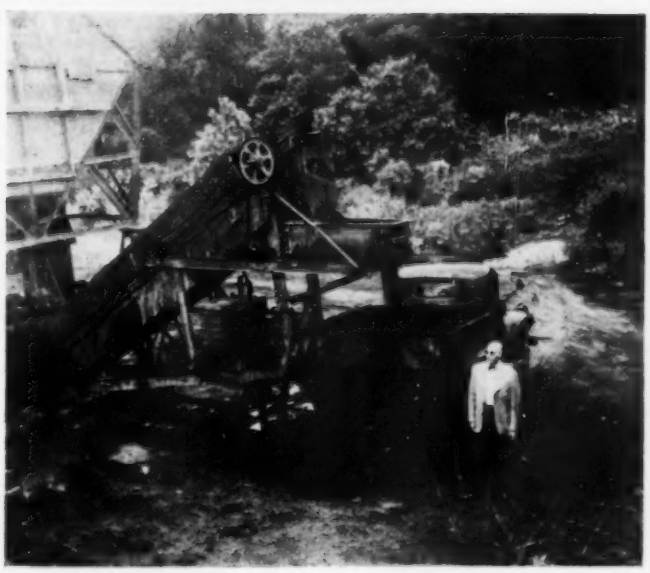
BY BLENDING asphalt emulsion with a locally produced gravel, Anderson, Ind., is providing its residential district with an all-weather street that is practical and inexpensive. City Engineer Virgil Lee has designed the street-mix using a maximum of locally produced material which he knows is easily available and not subject to shortages. The mix requires only 3% bitumen and the method of construction calls for a minimum of manipulation by equipment.

Contrary to customary procedure with asphalt emulsion, Engineer Lee mixes the asphalt and the aggregate in a 60-in. rotary drier which is 50 ft. long. He introduces the emulsions and the heat at a point one-third the way through the drier, holding the heat to less than 300°F. This tends to make the asphalt "break' more quickly and mix more thoroughly with the aggregate. After the mix leaves the drier, it enters a pugmill and then is lifted to a chute that discharges into trucks which transport the finished mix to the street being improved. The pugmill, however, can be eliminated since the rotary drier mixes all the material thoroughly, and coats all particles with bitumen. However, since the pugmill is structurally a part of the elevating mechanism, it still remains in use.

Property owners must construct curbs and gutters. Gas tax pays for the surfacing.



This 60-inch drier mixes the asphalt emulsion and aggregate.



The finished mix is loaded for delivery.

The aggregate used meets the following sieve analysis:

Retained on	½-inch	screen	5-10%
"	"	#4	"	20-30%
"	"	#8	"	35-50%
"	"	#30	"	60-70%
"	"	#50	"	75-85%
"	"	#100	"	85-95%
"	"	#200	"	98-100%

The subgrade on which the base is laid is carefully compacted to insure adequate load-carrying capacity. Although the engineering staff does not make any density determinations of the subgrade, it does look carefully for trouble-spots and replaces questionable soil with some that is more easily drained. The subgrade is then bladed to grade and rolled twice with a 5-ton roller in order to produce a firm base.

The mix goes to the streets in 5-ton batches and is laid out by a Jaeger spreader into a layer that compacts to three-inch thickness. This layer is then rolled twice with a 5-ton Galion roller and then given a final finish roll with a 10-ton Buffalo Springfield 3-wheel roller. Traffic has constant access to the street. None of the roads are ever blocked.

The surface of the base is sealed by an application of 1/3 gallon per square yard of AE-150 emulsion applied cold by a Littleford distributor and 15 lbs. of sand cover aggregate per square yard distributed by a Frink spreader. Since this wearing surface is

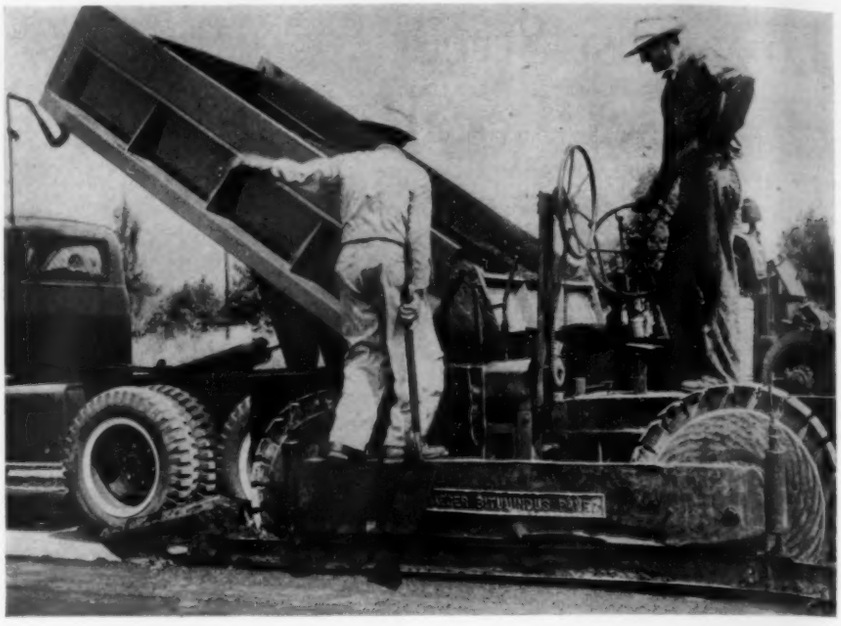
relatively thin, Engineer Lee contemplates applying it every two or three years.

Surfaces laid during the 1944 season have gone through two extremely severe winters and show no signs of deterioration. City Engineer Lee attributes this to the density of the surfaces and the use of a relatively soft (150 penetration) asphalt.

Construction Costs

Costs for this year's construction have been averaging $0.52 per square yard including sand cover. The 1944 program included 10 miles of surfacing; 1945, 8 miles; and 1946, 12-15 miles.

After one year of this type of improvement, the city was swamped with requests from all over town. In order to slow things down, the city refused to do work on any street on which there were no curbs. This hasn't slowed things as much as had been hoped for; however, to date the Board of Works has received some 30 petitions for walks and curbs and grading, these to be built by the property owners on an assessment basis.



The mix goes into a Jaeger paver for application to the street.

The city receives at present approximately $92,000 per year as its share of the gasoline and automobile license tax. This fund accrues and is used entirely for street maintenance and bridge purposes. The city buys street maintenance equipment from this fund.

How to Make Property Surveys

THIS LISTS the technical standards for property surveys that have been prepared by the Property Surveys Division of the American Congress of Surveying and Mapping. The report was submitted for adoption by the Congress at its annual meeting held June 29-30 in Washington.

LAND TITLES AND LOCATION.—Every parcel of land whose boundaries are surveyed by a licensed surveyor should be made conformable with the record title boundaries of such land. The surveyor prior to making such survey shall acquire all necessary data, including deeds, maps, certificates of title, center line and other boundary line locations in the vicinity. He shall compare and analyze all of the data obtained and make the most nearly correct legal determination possible of the position of the boundaries of such parcel. He shall make a field survey traversing and connecting all available monuments appropriate or necessary for the location and coordinate the facts of such survey with the predetermined analysis. Not until then shall the monuments marking the corners of such parcel be set, and such monuments shall be set in accordance with the full and most satisfactory analysis obtainable.

Any surveys made for purposes other than location of land boundaries need only the ordinary information and data necessary to fix the situs of the work to be done, by one or more ties to some known and accepted title boundary line or corner, together with such other data as may be required to tie the project into adjoining matters appurtenant.

Any descriptions written for conveyance or other purpose, defining land boundaries, shall be complete and accurate from a title standpoint, providing definite and unequivocal identification of the lines or boundaries, and definite recitals as to use or rights to be created through such descriptions. Any form of description regardless of presence or absence of any or all dimensions, but specifically tying to adjoiners, which fulfills the foregoing conditions, is acceptable. However, such description, insofar as possible, in addition to all necessary ties to adjoiners, should contain sufficient data of dimension, determined from accurate field survey, to enable the description to be completely platted. It is also advisable wherever correct surveys have determined the coordinate values of boundary corners or monuments recited in a description, to make proper reference thereto in the description by any appropriate recital.

MAPS.—Every land survey requires a map properly drawn, to a convenient scale, showing ALL the information developed by the survey; also a proper caption, proper dimensions and bearings or angles and references to all deeds and other matters of record pertinent to such survey, including monuments found and set.

If the survey is made for purposes other than land location, then the map should be conformable to the needs of the work authorized to be done, giving all the necessary information in conformity therewith.

Wherever provided by law or whenever necessary to perpetuate valuable evidence of land line locations, a map of the survey should be recorded in a public office in accordance with the provisions or permissions of the law in the particular state in which the survey is made.

Every map submitted to a client or presented as a public record, must bear the name of the Licensed Surveyor responsible for the work, his official seal or license number, and the date.

COORDINATE SURVEYS AND BASE TRIANGULATION SYSTEMS.—The use of the coordinate survey system of the U. S. Coast and Geodetic Survey and the U. S. Geological Survey is to be encouraged in all states.

The establishment of secondary triangulation systems tied in and properly related to such coordinate system is also recommended.

Wherever available, within reasonable distances, every land survey is to be connected with two or more monuments of the main or secondary triangulation system and the maps of such survey shall show the correct vertified coordinates of such monuments and of at least two of the monumented corners of such survey.

MEASUREMENTS. — Measurements shall be made with instruments capable of attaining the required accuracy for the particular problem involved. All tapes shall be calibrated to government standard for temperature and pull, and all measurements in the category of accuracy 1/10,000 or greater shall be made, taking into consideration such temperature and pull in the actual field work.

All transits shall be maintained in close adjustment and the projection of lines shall be made with the system of double centering or proper adjustment made to

(*Continued on page 141*)

Post-War Financing of Municipalities and New Sources of Revenue

By PAUL STUDENSKI
Professor of Economics, New York University
Consultant, Division of the Budget, State of New York

HAVING PASSED through a fifteen-year period of retrenchment in their activities, associated with the depression of the 1930's and with the war, our municipalities are now about to enter upon another era of expansion. Their services, restricted to the most essential needs and operated with a minimum of personnel and equipment, will have to be organized on a more extensive scale and an improved basis to meet increased demand as well as ordinary standards. Large amounts of urgently needed municipal construction accumulated over these past years will have to be undertaken at an early date, and many new projects will have to be developed and executed. As thousands of new homes are erected, new schools will have to be built, and streets and utility services provided for their occupants. In order to accelerate the rehousing of their populations now living in the slums, some of the larger cities might wish to supplement the federal and state financed housing projects with others financed by themselves. Scarcely any municipal service will escape demands for extension and improvement. Under these conditions, municipal expenditures will rise rapidly in the next few years. They will be swelled further by the increased costs of labor and materials.

Eventually, however, a business depression will develop. It will be attended by a rise in local welfare and relief expenditures, and by other contingencies which our municipal governments must be prepared to meet. If our local governments are alive to their responsibilities to their own communities and to the nation, they will endeavor to maintain their services without abatement during such depression, and even to expand their construction activities to help maintain employment and speed recovery.

To finance their required expenditures during both the good and bad years, municipalities must have revenues which can expand rapidly during the good years, and be maintained on an even keel during the bad ones. Unfortunately, they do not have such revenues in large enough measure now. Their property tax revenue, which generally furnishes from 65 to 70% of their current resources, has only limited capacity for expansion and is bound to decline during a depression. The other revenues, which are supplied to the localities by the state in the form of grants-in-aid or shared taxes, or which are raised by them locally from sources other than the property tax, are secondary in importance and are not attuned to the requirements of the times. Major changes in the existing municipal revenue system are therefore necessary now.

In addition, in almost every municipality, improvements in methods of administration of expenditures are needed. More and better services for every dollar spent could be furnished by adopting better methods of budgeting, purchasing, and personnel administration. However, the subject of management of municipal expenditures is outside of the domain of this discussion, which is concerned with the revenue problem.

Summary

The main points of this discussion may be summarized as follows:

To meet their enlarged responsibilities during the bad as well as the good years ahead, municipalities will need larger and more stable revenues. These can be obtained by a concerted effort in three directions: (1) the improvement by the municipalities of the administration of their property taxes; (2) the provision by the states of more ample, better organized, and more equitably apportioned assistance; and (3) the broadening by the municipalities of their revenue bases through the levying of new taxes with the permission of the state and increasing charges for municipal services.

In the development of these financial programs, most states and cities will be able to learn from experience of those that have pioneered in the field, but they will have to exercise their own judgment and often strike out along new lines. In the extension of the boundaries of municipal taxation, no pattern is applicable to all municipalities in all states under all conditions. Specialized patterns to meet different conditions must be developed cooperatively by state and municipal authorities in each state within the general framework of a coherent system of federal-state-local taxation.

Within the limitations imposed by that framework, municipalities should be allowed a maximum of freedom for experimentation with new forms of taxation. The people in each community should decide how best to apportion the added costs of their government among themselves. This is the essence of our democratic system.

Potential Increases in Local Property Tax Revenues

The property tax has been much overworked in most cities, and has become an exceedingly burdensome levy. It retards the development of housing and discourages location of business and population. It is imposed in many places at the maximum rate allowed under the law and is applied to exceedingly high assessments. It will be able to produce additional revenue only sparingly and gradually. Any attempt to draw a large additional revenue from it is likely to boomerang against the city involved.

However, harmless and legitimate increases in the revenue yields of the tax will be possible. In some municipalities tax rates may be raised slightly without violating the legal limits. Where, as in Ohio and Michigan, these limits are too restrictive and the rates too low, the limits should be liberalized and the rates raised. In many municipalities, rising real estate values will permit reasonable increases in assessments. New construction everywhere will add new properties to the assessment rolls. Increased yields will thus be produced in several ways.

To effect such increases in revenue from the property tax in the proper measure, it will be necessary for many cities to improve their present admin-

istration of this tax. Otherwise, the existing inequalities in assessments will become aggravated and new inequalities in assessments will be introduced which will plague the cities for years. The nature of the needed improvements is well known. They have been advocated for the past twenty-five or more years, and have been adopted with good results in a number of municipalities. They include the substitution of appointed for elected assessors, the organization in the assessment offices of ample records on the character of properties, their costs, rental incomes, etc.; and the adoption by the assessors of well-tested assessment techniques. Larger and more stable revenues may be obtained also by improving the existing tax-collection systems, through the introduction of more prompt follow-ups of tax delinquencies, prompter tax sales, and more efficient procedures for the clearance of tax titles.

Where the tax applies to personal as well as real property, its yield could be increased and administration made more equitable through the adoption of a system of classification of property and differentiation of rates. Such a reform has so far been carried out in only a few states and only in a very imperfect form. It could be developed more scientifically on either a municipal or a state-wide basis in many states. Personal property should either be taxed systematically and at a lower rate or, as done in some states, made completely exempt from the property tax.

But even with these improvements in its structure and administration, in many municipalities the tax will not produce all the additional revenues required during the period of expansion, or a sufficiently steady flow of revenue during a period of depression. What contributions to an expanded and more stable revenue system may be obtained by our local governments from other sources?

Needed Extensions and Improvements in State Assistance

State assistance in the form of grants-in-aid or shared taxes supply, on the average, approximately 16% of the aggregate revenues of our cities. In a number of states, however, including such highly urbanized ones as Pennsylvania and New Jersey, state assistance furnishes less than 10% of such revenues. As now constituted in these states, it cannot be of much help to the cities in the solution of their financial problems. However, if it were properly expanded, it could be made to supply in most states more than 20% of the cities' revenues, as it does in New York, Massachusetts, Wisconsin, Ohio, and a few others. In view of their vastly superior revenue resources, most of the states should provide the municipalities with at least this proportion of their revenues, and many should try to raise their existing proportions to 25%.

State assistance in many states is exceedingly unstable. It rises rapidly during good times, but falls off sharply during bad times. Moreover, it is apportioned often by formulae which are not related to variations in need and fiscal capacity of the localities. Where this is the case, a revision in its organization and apportionment should be instituted. How much can be accomplished along these lines is well demonstrated by the recent example of New York State. Without entering upon a detailed discussion of this subject, I should like to indicate a few of the main lines along which, in my judgment, state assistance should be reformed in many states in the interest of a more ample, more stable, and better balanced system of municipal finance.

State aid for *education* should be revised and increased in many states to ensure the maintenance of a certain minimum educational program in every community, as well as to equalize local school tax burdens. State aid for local *welfare and relief* expenditures should be increased so that it will cover the major share of these expenditures, particularly during periods of depression when relief costs rise rapidly and threaten to bankrupt the municipalities. Increased aid should be provided for local *public health and hospital* expenditures, which are bound to expand considerably during the next few years as a result of the increased health-mindedness of the people. Subsidies for *public housing* projects should be provided and increased.

Larger amounts of revenue should be distributed to the localities for general budgetary purposes. This need not necessarily involve the additional sharing of specific taxes. It may be accomplished, as in New York, by providing an adequate fixed sum for annual distribution from the general revenue of the state. Either the shared taxes should be selected with greater regard to their stability, or the distribution should be fixed as in the last-mentioned case, at a certain pre-determined annual amount. The funds should be apportioned preferably on the basis of population, with adjustment for certain factors which measure variations in need.

There are limits, however, beyond which it is neither feasible nor socially desirable to increase state assistance. There are points at which such assistance begins to destroy the political, as well as the fiscal independence of the cities. It is not good for municipalities to be too dependent on the vagaries of state politics. No municipality will be free to plan its activities and expenditures far ahead, if the decisions affecting large proportions of its income are made in the state capital and if large amounts can be granted or withheld at any time.

Moreover, even when state assistance is inadequate, its extension may be politically impossible due to the opposition of legislators from rural districts who often have little sympathy for urban problems. In this case, a city needing more revenue might as well give up the hope of getting it from the state, and turn to possible local sources. What are the possibilities along these lines?

Broadening the Base of Locally Collected Revenue

Locally collected revenue from non-property tax sources supplies on the average 17% of the total city revenues, and, as now constituted in most cities, cannot help them much in meeting their problems. In some cities, however, its proportion recently has been raised to 25 to 30% of the total revenue, thus setting an example for others to follow. The non-property tax revenue is comprised mainly of taxes, special assessments, and miscellaneous revenues. The greatest possibilities for extension lie in taxes. Hence, the present discussion will deal mostly with them. In the course of this discussion, illustrations will be drawn from the excellent study just prepared by A. M. Hillhouse and Murial Magelson and published by the Municipal Finance Officers' Association under the title "Where Cities Get Their Money."

Until recently, except in southern states, non-property taxes were an unknown species in municipal taxation. It was generally believed that they were not suitable for city use. New York City was the first to demonstrate the fallacy of this. In 1934, under the pressure of a financial crisis, the city boldly imposed five taxes with the sanction of the state: the sales tax, the gross receipts business tax, the utilities tax, the inheritance tax (which was repealed eventually), and the income tax (which was repealed even before it went into effect). At least three of these had never been imposed locally

(*Continued on page* 119)

[*] See "Tax Sources for Municipalities" THE AMERICAN CITY, March 1946, pages 101 and 145.

How Station Garbage Grinding Works in St. Louis

AN INJUNCTION was the spark-plug that started the construction of St. Louis' two garbage grinding stations some ten years ago. The injunction proceedings were initiated because of odors that emanated from the hog farm where the city's garbage was used for feed.

Until February 1935, when a five-year contract expired, the city hauled all garbage to a dock at the foot of Chateau Avenue and dumped it on barges belonging to the hog farm contractor. This cost the city approximately 35 cents per ton. The hog farm was located on the Illinois shore opposite the bluffs in South St. Louis.

When certain wind conditions prevailed, however, odors emanated from this hog farm of a nature sufficiently rank to trouble the most tolerant of neighbors, and in consequence the residents secured a court order restraining St. Louis from disposing of any more garbage at this particular farm.

After considering all the factors, St. Louis officials decided to build two garbage grinding stations—one in the public works garage and the other in a separate building over the Mill Creek Valley outfall sewer.

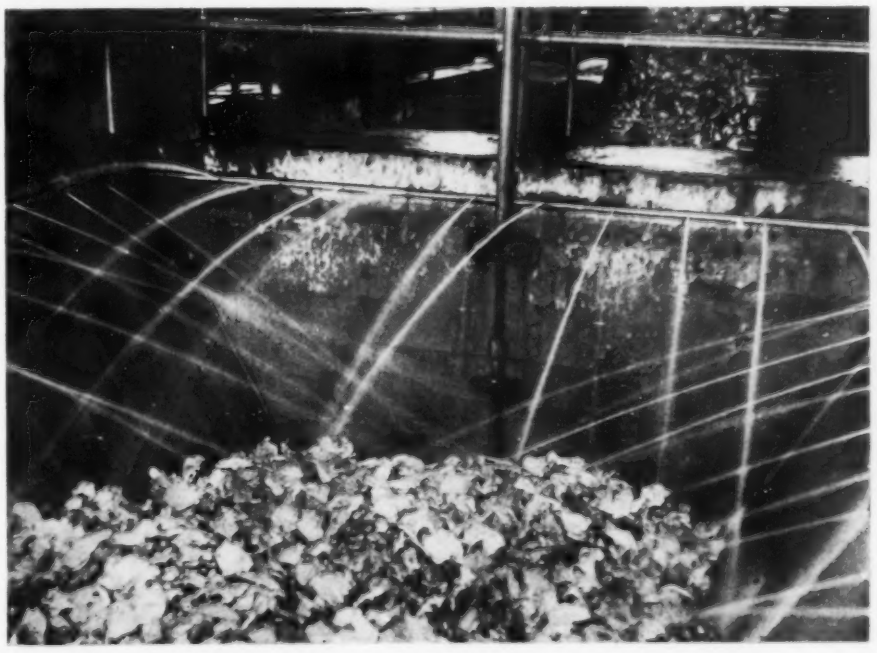
But stations are built substantially alike from the method of receiving the garbage to the size of the grinders that comminute it. Each plant has two grinders; one capable of 10 tons per hour and the other, 20. However, the one in the public works garage, which was built first, discharges into a 12-inch sewer that connects with the interceptor sewer and this particular line has been a constant source of trouble. St. Louis officials report that whenever they operate that particular station they must at the same time send a crew out to keep the line open.

The difficulty they have had in keeping the line from clogging because of the garbage is convincing evidence, to St. Louis officials at least, that ground garbage does not clean sewers as is sometimes suggested in discussions on the subject. The evidence here indicates that the garbage must be flushed into a line carrying plenty of water, or difficulty may be expected.

The second plant, located directly over the Mill Creek outfall sewer, a large main measuring 15 feet high by 20 feet wide and having a dry weather flow 3½ feet deep was built in 1937. The volume from this is big enough to absorb without difficulty the 500 tons per day of ground garbage that the station contributes.

Both plants work with straightforward simplicity. Trucks drive onto a weighing platform where a Howe scale with 60,000-pound capacity records the weight of garbage that each truck is carrying. From there, they discharge the garbage into either of a pair of sunken hoppers with a capacity of about 30 cubic yards. These hoppers are equipped with Dodge conveyors. One plant uses Jeffrey grinders; the other uses Williams conveyors with corrugated belts that help carry the garbage to the grinders.

The first step is to weigh all garbage before sending it to the grinder. Note the visible indicator arrangement to the right of the desk to help the operator make an accurate entry.



After being weighed the garbage is dumped in this receiving hopper and sprayed with a disinfectant to help keep down odors.

Here is the hopper when empty. Notice the corrugated traveling belt at the bottom and the hand-operated gate that controls the discharge of garbage.

The traveling conveyor now brings the garbage to the grinding machine. There are two of these conveyors, each serving a separate grinder.

Cleanliness is the watchword in the St. Louis garbage grinding station. After each day's work the operators carefully scour the station.

A hand-operated gate controls the rate of garbage discharge to the grinders. The grinders reduce the garbage without particular difficulty to a mass that can be combined with the rest of the sewage and treated as such if and when St. Louis builds a sewage treatment plant.

Visitors inspecting the station are impressed by the cleanliness as well as speed and efficiency of operation. There is no opportunity for the garbage to be stored and become septic. Its disposal is prompt and thorough. The building is small and inconspicuous. After each day's grinding operation the workmen carefully wash down the plant.

The presence of the second stand-by plant provides the city with 100% reserve capacity—an excellent safeguard for this type of operation. Garbage obviously cannot be stored to good advantage.

The work is conducted under the direction of Arthur C. Meyers, director of the department of streets and sewers and is under the immediate direction of Ernest H. Paffrath, sewer commissioner, department of streets and sewers.

(See page 11 for further discussion.)

The Case of the Murdered Digesters

MYSTERY cloaked Syracuse, N. Y., last year when three of the city's public health guardians were found dead at their posts. The autopsy revealed that they had been the victims of violent action and had died in the performance of their duty.

This was no ordinary crime, however. The victims in this case were the three digesters at the Onondaga plant and the culprit was elusive enough so that plant superintendent Uhl T. Mann called for outside help.

The master detective called in for this case was New York State Department of Health's F. W. Gilcreas of the Division of Laboratories and Research. A quick analysis of the situation placed the blame on trade wastes from a penicillin manufacturing plant.

The evidence showed that the plant had been receiving domestic and trade wastes, treating them satisfactorily until the spring and summer of 1945, when gas production in the digesters dropped suddenly from 40,000 cubic feet per day to zero. Significant supplemental evidence was the fact that the plant's final effluent continued to be good. In fact, there was little change in the plant's operation except for the increase in sludge volume.

Detective Gilcreas turned up with certain significant clues. The first was that if good sludge were seeded with that which had been poisoned, it too would fail to digest. This showed that whatever the agent was, it was persistent in action.

The sewage had a distinct odor of amyl acetate. Furthermore, in addition to penicillin manufacturing wastes, small amounts of various metals were found in the sludge, contributed by metal-working plants in the district. None of these metals produced any inhibition in the digestion process.

One point that particularly intrigued Detective Gilcreas was the fact that under certain conditions he could reclaim the sludge. If stored for a sufficient length of time it seemed to overcome the effect of the inhibitor and could be induced to resume digestion if seeded. In any case there was no trace of penicillin or antibiotic activity either in the sewage or the sludge. Thus, he concluded that penicillin was not the prime culprit and was more likely only an accomplice.

Formaldehyde the Culprit

In studying the manufacture of penicillin, he discovered that the vats were occasionally sterilized with formaldehyde. Although the amount used was so small that he doubted that it would cause any ill effects, nevertheless, he bore in mind that this sterilizing agent would inhibit digestion. Experiments showed that 25 ppm would produce no ill effects; more than 25 ppm would delay digestion; more than 50 ppm would delay digestion of normal sludge for at least 22 days; and more than 100 ppm would kill the digestion outright.

The evidence became a little more pointed when in February of this year two additional digesters "died" suddenly when a workman inadvertently dumped a tank of formaldehyde at the penicillin plant. This convinced Detective Gilcreas and Superintendent Mann. Formaldehyde was the culprit and the remedy was to keep it out of the sewage, if at all possible. The concentration of the wastes from which formaldehyde has been removed, in an amount of 3½% on a dry solids basis, did not affect digestion. However, when these wastes were added in an amount of 7% on the same basis, inhibition of gas production in experimental installations was noted. The present volume of wastes corresponds to approximately 3½% on a dry solids basis.

Mr. Gilcreas related this experience at a recent meeting of the New York Sewage Works Association in Utica.

Increased Civic Activities Reported by Local Chambers of Commerce

INDICATIVE of a growing desire on the part of chambers of commerce to cooperate constructively in local civic affairs is the following summary compiled from a single issue (June 1946) of the *News Letter* of the Commercial Organization Department of the Chamber of Commerce of the United States:

The chambers of commerce in Malden, Mass., Topeka, Kans., Memphis, Texas, Waterbury, Conn., and Evanston, Ill., have undertaken activities to solve their respective *municipal parking problems.*

In Malden the Chamber urged free parking lots, and the installation of meters, and in Topeka, the chamber conducted a campaign to discourage all-day parking. The Waterbury Merchants Bureau is making a study of off-street parking lots and open air garages, and the Evanston Chamber has recommended a 3-point parking plan calling for the shortening of curb parking time, the installation of parking meters, and the creation of municipally owned parking lots.

In several municipalities the Chamber of Commerce has embarked on *clean-up campaigns.* Because of polio epidemics in nearby large cities, the Houston, Texas, Chamber added health hazards to the program of fire prevention and home renovation in its *clean-up campaign.* The city of Lafayette, Ind., Purdue University, and the Greater Lafayette Chamber of Commerce are cooperating in a *rat extermination campaign,* and the Freeport, Ill., Chamber of Commerce has undertaken a *mosquito extermination campaign.*

In Farrell, Pa., upon the recommendation of the Chamber of Commerce, the mayor, city council, board of education, and the Chamber have embarked upon a program of *summer recreation for children* which includes the engagement of two chief supervisors to serve at playground and the establishment of a play spot for young children at one of the city parks.

The Wilmington, Del., Chamber reports that a *Business and Technical Library Section* has been established in the Wilmington Public Library. It contains business and trade publications of many kinds and government publications and city directories.

Three chambers report activities to help their cities cope with the *housing situation.* The Housing Committee of the Topeka, Kans., Chamber urged local home owners who were going away for the summer to rent their houses as a palliative measure. The Mayor of St. Cloud, Minn., in recognition of the work done on housing by the Chamber's Veterans Committee, appointed its members to the local committees set up at the recommendation of the housing administrator. In Sylacauga, Ala., the Chamber surveyed housing conditions in the colored areas of the city, covering such factors as occupancy per room, baths and inside toilets, percentage of home ownership, number of houses having electricity and percentage of persons desiring better houses at a higher rate. Colored high school students cooperated with the Chamber in this study.

Muskegon Community Program Helps Veterans To Readjust

JOHN C. BEUKEMA, Secretary-Manager of the Greater Muskegon Chamber of Commerce, Muskegon, Mich., in addressing the Annual Meeting of the U. S. Chamber of Commerce stressed the importance of veterans' counseling centers in the readjustment of veterans to civilian life. He based his discussion on his experiences with the Muskegon Community Program for Veterans which has achieved outstanding success. As reported in the National Chamber's *Jobs for Veterans* News Letter, Mr. Beukema pointed up two basic principles which govern the establishment of such centers: (1) A veteran's counseling center should be recognized as a temporary post-war agency but should have adequate staff and financing, on a community basis, while in operation; (2) It should be conducted strictly as a counseling center and referral agency and should not attempt to duplicate the work of the Red Cross, USES, and other agencies.

The speaker stated, "Vitiation of these principles implies duplication, lack of coordination, and confusion."

The Muskegon Center has an annual budget of $14,250, and serves a population of 108,000, out of which 12,000 men and women served in the armed forces. The Center, therefore, is organized to service this number of veterans as they are released. The staff is composed of a director, a secretary, a receptionist, a counsellor, and a clerk-typist. The director is a veteran of the last two wars. In March of this year 889 veterans utilized the center.

According to Mr. Beukema, "Trained personnel, capable of recognizing the veteran's needs and able to discriminate, is probably the chief reason for the Center's success." Housing and domestic difficulties constitute major problems which faced veterans and which the Center has handled effectively.

Give Employes a Sense of Belonging

HELPFUL advice as to management-employe relationships applicable alike to industrial corporations and to public bodies, was voiced by Gwilym A. Price, president, Westinghouse Electric Corporation, at a luncheon conference of editors of trade and technical magazines, held at the Park Lane Hotel, New York, July 17.

Especially stressed by Mr. Price were the facts that in labor disputes the public interest is paramount; that the rights of management and of employes stem from concurrent obligations; and that maximum production and harmony can exist only where employes are given a sense of "belonging." The larger the business the more difficult this last becomes, Mr. Price pointed out, but he cited incentive payments, retirement pensions, encouragement of a steadily rising standard of living, dissemination of information to employes regarding company policy and other methods for making employes realize that they have a real stake in the enterprise.

Himself the son of a former mill worker in Western Pennsylvania, the Westinghouse president does not question that labor unions are needed and that on the whole they have served a very useful and worthwhile purpose; but he expressed regret that some of the unions have not yet developed sound, democratic methods of determining their policies and action and of electing wise leaders.

While strongly in favor, of course, of the kind of management-employe relations that will minimize the number of disputes and that will adjust differences by peaceful means, Mr. Price told the magazine editors that he does not advocate the outlawing of strikes except those affecting governmental units, public utilities, and immediately essential services.

Comparing present conditions with those existing in the Westinghouse plants prior to the recent 117-day strike, Mr. Price reported increased production, less absenteeism, a better attitude on the part of the workers and, on the whole, a better product.

Montgomery Drills More Wells

This shows the two ground storage reservoirs recently constructed to help strengthen Montgomery's water supply.

IT TOOK a new 4-mgd well field plus a pair of 2-mg concrete ground storage reservoirs to reinforce the water supply at Montgomery, Ala., sufficiently to meet the present demand. This improvement strengthened a pre-war plant of 9.2 mgd capacity which consisted of deep wells with 7.45 mg ground storage and 2.2 mg elevated storage.

For the past six years the demand for water has shown a consistent upward trend. In 1939-40 the city required 5.4 and 6.3 mgd, respectively, with a 7.7 mgd peak. In 1941 the average demand was 7.0; in 1942, 8.0; in 1943, 9.2; and in 1944 it went to 10.05 with a 13.0 mgd peak. During this same period the population, 78,000 in 1940, went to an estimated 100,000 plus 20,000 troops in 1942.

The new well field that met this supply consists of six Layne-Atlantic gravel-packed wells with deep-well turbine pumps, each capable of producing 550 gpm. These bring water to a new pumping plant equipped with one 3,000- and one 4,500-gym pump each pumping against a 220-foot head. Two Wallace and Tiernan chlorinators supply 0.1 ppm residual chlorine to the plant for the only treatment that the water requires, and this only for protection.

The water passes through a Cascade aerator as it leaves the plant and enters the reservoirs. This reduces the carbon dioxide content. Two venturi meters measure the pumpage into and out of the reservoirs.

The work on the plant also included some strengthening of the distribution system. Approximately 7 miles of mains varying in size from 10 to 24 inches in diameter were strengthened. This includes more than two miles of mains going to the military air field. The pipe laid was Class 150 cast iron pipe.

The work was constructed as a Federal Works Agency project after certification as a war-essential project. It was completed in August of 1945.

Pennsylvania Municipalities Move to Stop Stream Pollution

OF THE 508 municipalities in Pennsylvania that have been ordered by the State Department of Health to prepare plans for sewage treatment works to stop stream pollution, 365 have already retained engineers and are in the process of preparing plans and engineering studies. This was revealed by Mr. Howard E. Moses, chief engineer of the Pennsylvania State Department of Health, in a paper delivered recently before a meeting of the Pennsylvania State Association of Boroughs in Reading, Pa. Of the 365 municipalities now preparing plans, 126 are in a metropolitan district, whose problems are being considered by one unified engineering study.

The retention of coal screenings from mining operations in Pennsylvania has been one of the major stream pollution problems, Mr. Moses pointed out. However, this discharge to streams is being greatly reduced by the mining companies involved.

The preparation of plans for sewage treatment by various municipalities has been greatly expedited through two sources. The Pennsylvania Department of Health and the Pennsylvania Post-War Planning Commission can help defray the cost of such plans in the form of a grant to the municipality; and the Federal Works Agency in Washington makes loans without interest for the preparation of engineering plans, the loans to be paid back when the projects go into construction.

Many borough officials at the conference expressed interest in the Mansfield Bill, now awaiting congressional action, which will provide grants to municipalities undertaking sewage treatment projects to the extent of one-third the cost of the project. This bill was reported out of the committee and recommended for passage by the Rivers and Harbors Committee of the House at the last session.

East Ham, England, Uses Salvage Incentive Containers

EAST HAM, England, is supplying householders in a portion of its area with separate containers to make the salvage of garbage and rubbish easier, according to W. H. Price, Cleansing Superintendent, in a paper presented before the British Institute of Public Cleaning and published in the *Municipal Journal and Local Government Administrator* recently.

Experiments indicate that, given a separate container, the householder will furnish two pounds of kitchen waste per house per day. Salvage campaigns conducted in England during the war have demonstrated the value of these programs.

Mr. Price has noted the following advantages in supplying each householder with a hygienic container that separates the garbage from the rest of the household refuse, and supplying it without charge:

1. There is no nuisance to the householder, since the container is within easy reach.
2. The container is easily cleaned by the householder.
3. Its design prevents animals from prying off the lid and dumping the contents.
4. When the containers are put out for collection they are not offensive in appearance.
5. The containers increase the yield of kitchen waste from each house, which in England, means profit to the community.

Traffic Control and Facilitation

Traffic Planning for the Small City

By **PETER P. HALE**
City Plan Consultant
New Haven, Conn.

A CITY MUST solve its traffic problems before it can become a really modern and efficient metropolis. The most effective way to do this is to harness traffic flow, and direct it into new channels. This is a task for the traffic engineer and the city planner.

Let us consider the importance of decentralization and reorganization to the four phases of city life—commerce, industry, residence, and recreation. Commerce is usually located in the center of the city and is the scene of the worst traffic jams.

If the center is to be maintained, the situation must be remedied. The job begins with three traffic considerations: access, circulation, and parking. A limited-access route tangent to the center will get traffic in and out, and because it is limited, it will prevent the parasitic growth of business along the stem. Where adaptation of existing routes of this type can be carried out, this should be done at once.

Streets should be dedicated to vehicles in motion, but stopping places must also be provided. The majority of cities of 200,000 or less will find cores in their city blocks which are ripe for parking developments. It is much healthier to develop several of these around the center than to build one great terminal right in the center, because volume siphoned off the streets before reaching the very heart of the commercial center reduces congestion and simplifies the circulation problem.

Making the best use of what parking space is available in the center is another approach to the problem. Turnover is the answer.

Industrial Areas

Industry, the second phase of the city's activities, is being driven out of the city by high land costs and *time*—which is another word for traffic. Access, circulation, and parking again constitute the problem. The industrial area must be related directly to the residential districts, transport centers, and "through routes." This relationship can be improved by deciding on a few circumferential arteries to drain the residential areas and then concentrating on synchronization of lights, parking regulations, and alignment. Connections to the through routes and transport centers deserve the same treatment. Within the industrial area, off-street parking is almost as important as it is in the center of the city.

Residential and Recreational Areas

It is now considered desirable to divide the city into neighborhood units of five to eight thousand people. To stabilize old neighborhoods and encourage new ones, traffic flow must be controlled, for heavy traffic is not conducive to the growth of a pleasant living area.

Recreation, eventually will be almost as important as industry and residence in the life of a city, and because few cities are fortunate enough to have large recreation areas, it is up to city planners to see that recreation centers are accessible.

The direct relationship between the four phases of city activity, and traffic handling cannot be denied. Even in cities as small as 20,000, congestion materially affects existence and future growth.

Condensed from Mr. Hale's address before the Third New England Traffic Engineering Conference held at the Massachusetts Institute of Technology, Cambridge, Mass., in June.

Underground Parking in Kansas City

By **HARRY HEWES**

IN KANSAS CITY, MO., preliminary plans have been drawn for the construction of an underground parking garage for 1,800 standing cars at the Municipal Auditorium.

After a study of the need for such a facility, the Federal Works Agency through its Bureau of Community Facilities advanced a loan of $50,000 for the preparation of plans and specifications for the Auditorium-Garage.

Gentry and Voskamp, architects, were retained by the city to prepare the preliminary plans and make test borings at the auditorium site. The parking levels, three on one side and two on the other, will be reached by ramps, and the floor of the garage will follow the pitch of the streets to reduce construction costs. The garage, adequately located to tap traffic without entering congested sections, will be only about two blocks from the new Southwest High Speed Traffic Way.

To Reconsider Proposal

Kansas Citians who went to the polls last March and voted down the $2,500,000 proposal will have an opportunity to consider the matter again as soon as municipal legal machinery can get it on a ballot. General obligation bonds totaling $2,500,000 are sought for the acquisition of property not now owned by Kansas City in the blocks bounded by Wyandotte, 13th, Central, and 11th Streets, immediately facing the auditorium, and for "the construction thereon of parking facilities for automobiles on or under all or part of said lands, and for necessary landscaping in connection therewith. These parking areas and facilities . . . may be leased by the city to the highest and best bidder for operation in furnishing parking space to the public upon the payment of fees, or in the event that no satisfactory bid is received, the city may itself operate such facilities . . . provided the net receipts from such lease or operation shall be placed in a fund to be used for the payment of interest on and retirement of such bonds."

Dr. W. D. Bryant, director of the city's Research and Information Department, declares that damage to other Kansas City operators of garage space "would be infinitesimal or nonexistent" and that "present tax revenue from the site could be easily absorbed by the garage and at the end of 20 years would increase 14-fold."

Kansas City received so many inquiries regarding the plans for coping with the off-street parking situation that officials organized a clinic for an interchange of ideas. The meeting was held in June with St. Paul, Minneapolis, Des Moines, Omaha, Wichita, Tulsa, Dallas, Fort Worth, St. Louis, and Sacramento represented.

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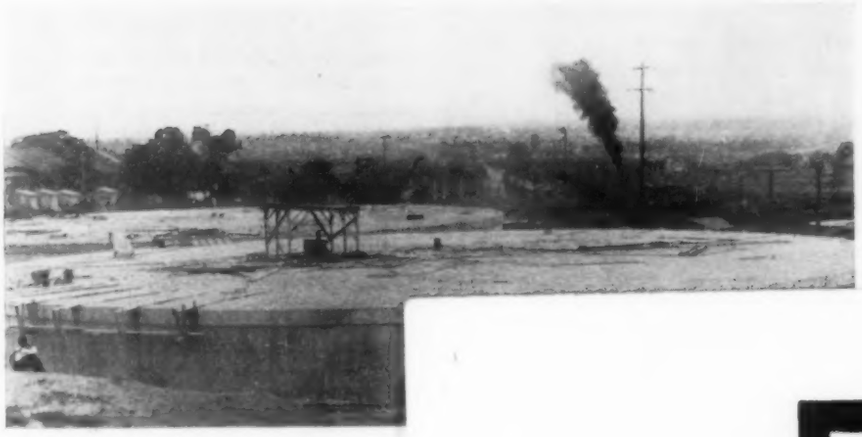

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Trolley Coaches

are good news to...the public... the management...city officials

Trolley Coaches Carry the Load in Indianapolis

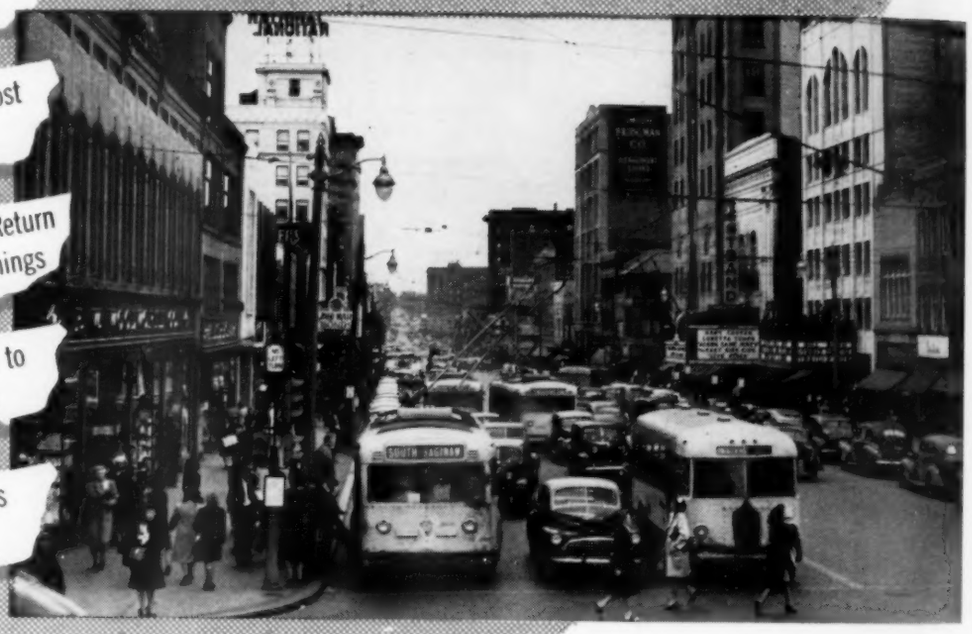
Trolley Coaches Increased Riding 10% in Dallas

Trolley Coaches Earn the Most Revenue in Providence

Ft. Wayne's Trolley Coaches Return 83.5% of System's Net Earnings

Atlanta to Convert 21 Lines to Trolley Coach Operation

Milwaukee's Trolley Coaches Increased Riding 65%



They are good news to the public because . . .

They are comfortable, speedy, silent and safe. The smooth flow of electric power permits fast acceleration without any noticeable change of pace to the passengers.

They are good news to the management because . . .

The public likes them. Increased patronage means increased revenue. Trolley coaches have proved efficient and economical to operate and consistently return high net earnings.

They are good news to city officials because . . .

Their maneuverability minimizes traffic congestion. They can operate over the full width of a 30-foot street to avoid careless pedestrians, stalled traffic or parked trucks.

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  Shine up your signs with Prismo at a fraction of previous reflectorizing costs
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Immediate deliveries on Standard and Junior Kits.

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Municipal Division

HUNTINGDON, PENNSYLVANIA

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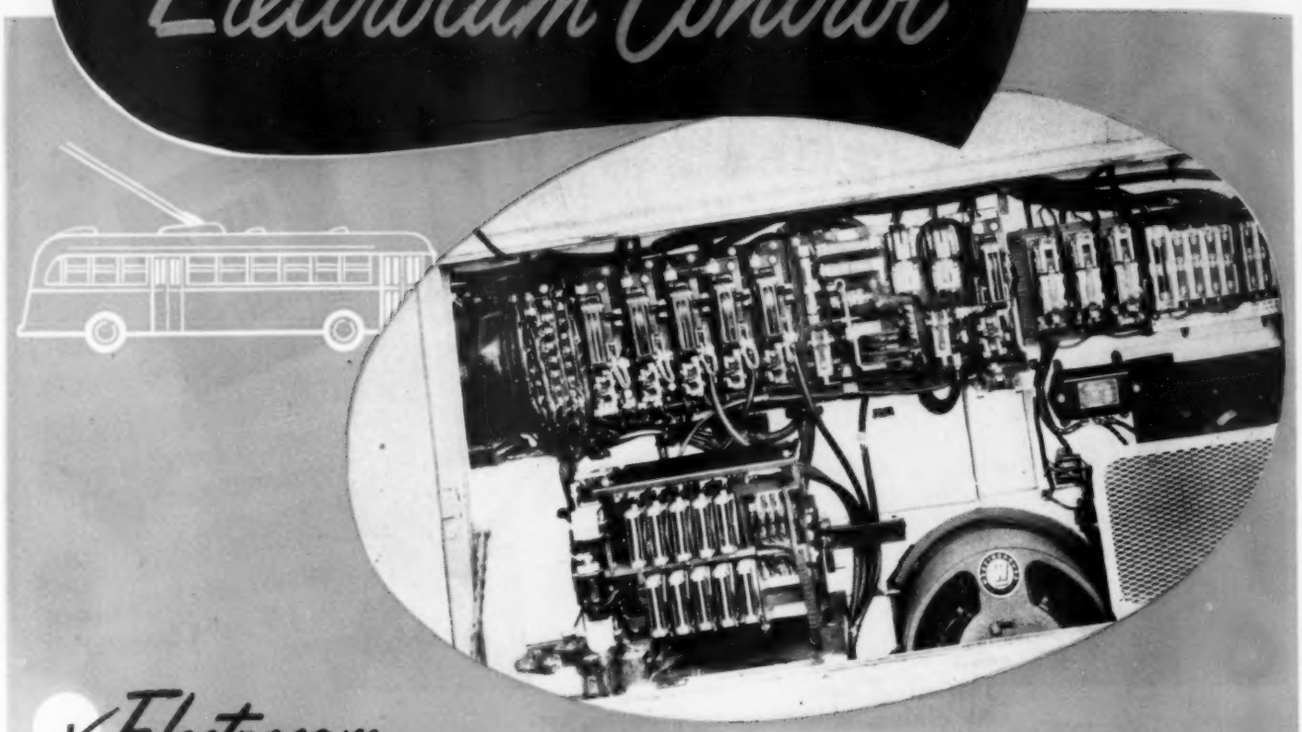

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PLANTS IN 25 CITIES . . . OFFICES EVERYWHERE

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SERVING THE TRANSIT INDUSTRY

Parking Under Parks

OFFICIALS in large cities that are thinking of following San Francisco's successful experiment in placing parking garage under a park* will find the following letter of interest. The writer is one of New York's leading architects: The letter was published in the *New York Times* of July 18, 1946.

To the Editor of The New York Times:

New York's parks are among its priceless possessions. One hears with dread the suggestion that public garages be built under some of them.

Your recent editorial "Parking Under Parks" points out that where congestion is heaviest in Manhattan there are few parks.

Your conclusion that general traffic relief from garages dug beneath our parks does not seem to be in sight is reassuring to those who would not have our parks disturbed. May not some relief be possible through the construction of new parks, with parking garages below, in strategic locations?

May not the earning power of parking garages make substantial contribution to to the expense of construction and maintenance of new breathing places? It will not be forgotten that these parks would also create on their perimeter desirable sites for new housing.

It is not essential that these parks be planned at the level of the adjoining streets. Virtue will be found in their being built at one or perhaps two stories above those levels, with the street crossing the park site, at normal levels below surface of the parks. The garages would open from the street level without interference with the park.

Access to the parks may be had by ramps or steps and, better still, from doorways, at the park level of the newly built housing, across covered streets or by light bridges over them, should it be thought desirable that they be left open to the sky.

ELECTUS D. LITCHFIELD
New York, July 9, 1946

* See THE AMERICAN CITY for October 1944, "San Francisco's 'Landing Strips for Motorists'" page 76.

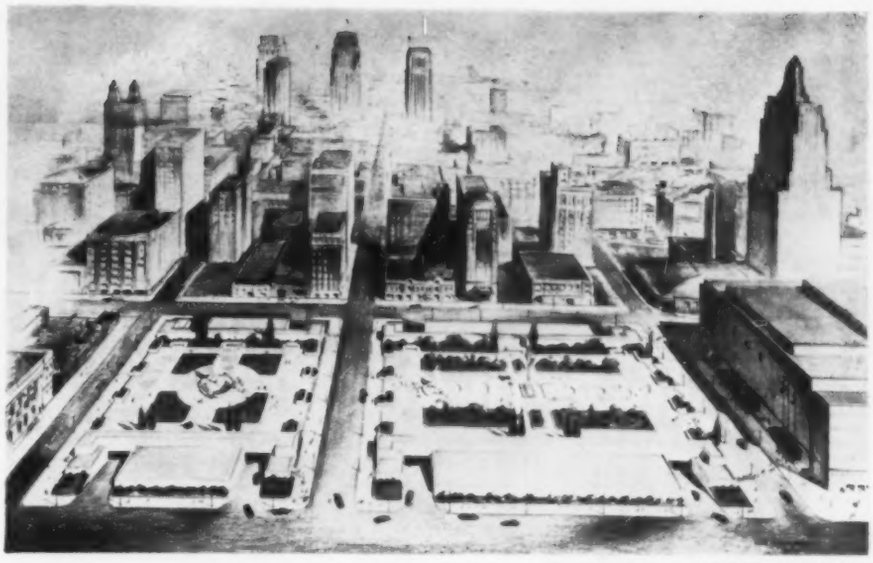
Parking Meter Receipts

TOTAL RECEIPTS from parking meters operated in Irvington, N. J., during 1945 were $9,510.47, John Gormly, supervisor of parking meters, reports.

Maintenance costs for the year were $970.02, including the purchase of parts and new units. The cost of handling the collections was $208.90.

The $8,331.55 turned over to the town treasury at the end of the year brought the meter receipts since the initial installation to $35,398.28. Supervisor Gormly declares that the meters continue to be popular with both the merchants and the public.

Irvington operates 300 Mark-Time parking meters.



GENTRY & VOSKAMP, ARCHITECTS

Architect's drawing of street level improvements for the proposed underground parking garage facing Kansas City's Municipal Auditorium. The garage will accommodate 1,800 cars.

Expediting Traffic by Transit

By WARREN R. POLLARD, President
Virginia Transit Company, Richmond, Va.

NATIONAL SAFETY Council records show that public transit vehicles in 1944 were 13 times safer than private passenger automobiles. Moreover, a bus or trolley coach is an economical user of street space. A person in a 40-passenger bus requires a little over one foot of linear lane length of street, while each private passenger car rider requires 10 linear lane feet.

Transit does not require parking space as do private cars, thus it preserves central area values and prevents business disintegration and decentralization. Some of the farsighted men in large cities are advocating a ban on the parking of cars at the curbs in the concentrated business area, for they are aware that fewer than 4% of the shoppers in the downtown district park their cars at the curb.

City planners and transit managements have been quick to grasp the significance of the combination of public transit service and parking terminals. In a number of cities, express service from outlying parking lots has been installed.

When the new express highways are built, public transit expects to provide an express service from outlying areas to the congested downtown districts. Every opportunity should be used to incorporate into projected urban highway facilities for use by public transit, for transit will greatly increase the number of people the highways can serve at relatively little extra cost.

A poll taken by the American Society of Civil Engineers at their winter meeting indicated that the greatest relief from traffic congestion to be obtained in 1946 could come only from "improved traffic engineering and enforcement measures and modernized public transit." Nearly all of the city transit companies now have modernization plans which will become an actuality as soon as the bottlenecks of production are overcome. The transit industry is eager to cooperate with city planning officials in a constructive solution of the traffic congestion problem.

Traffic Safety Check Reveals Faulty Vehicles

TWO OUT OF every six vehicles examined by the police of the United States and Canada during the first three weeks of the Police Traffic Safety Check program failed to meet minimum safety standards, according to the Traffic Division of the International Association of Chiefs of Police, which is directing the program.

"A total of 924,509 vehicles was checked between May 15 and June 9," Robert E. Raleigh, associate director of the Traffic Division and director of the Safety Check Program, reported. "Of these, 302,892, or 32.8%, were being operated with obvious and dangerous mechanical defects. The fig-

THE METER THAT EARNED More than a Million Dollars!

RECENTLY the treasurer of a large, mid-western city* reported that its 3,560 Dual Automatic Parking Meters had earned $1,581,984 for the city's general fund. This covered a 6-year period including gas-shy war years, and showed an average revenue of $263,668 per year. Out of every dollar earned by Duals, 79 cents went into city employees' pay envelopes.

This treasurer's report showed only one of the benefits of Dual—America's original parking meter. Police reports attest to the way in which Duals simplify traffic regulation. City maintenance reports prove that Dual upkeep is negligible, Dual performance dependable, despite heavy blizzards and scorching heat.

Duals are easy to install and operate, wear-resistant and tamper-proof. Their meter mechanism is manufactured by the makers of the famous Seth Thomas Clocks.

For more complete information, send for the attractive free bulletin—"Metered Parking—Today's Answer to Tomorrow's Traffic Control Problem". Or call on Dual engineers to help with your parking problems. They'll be glad to cooperate. Write . . .

THE DUAL PARKING METER COMPANY

A subsidiary of The Union Metal Manufacturing Co.

HARTER BANK BUILDING • CANTON 2, OHIO

**Name of city on request*

WHEN IT COMES TO CONTROLLING PARKING YOU CAN DO IT BETTER WITH DUALS

ures are based on partial returns from forty states, the District of Columbia, and nine Canadian provinces."

Rear lights, front lights, and brakes, in that order, accounted for the largest share of reported failures. Except in a few instances of shortages of automotive parts, these failures were the direct result of driver negligence. "Motorists who continue to operate unsafe vehicles will account for a large share of the traffic deaths within the next several months," Mr. Raleigh warned.

New York State Surveys City Traffic

A SERIES OF comprehensive surveys of traffic conditions in the various cities of New York State has been launched by the State Department of Public Works, preparatory to the development of plans for the construction of state-financed urban arterial routes through the cities. The surveys, which are similar to the one conducted in Buffalo early in March, got under way in July in Rochester, Schenectady, and the Binghamton Triple Cities area.

State and city police are cooperating with employes of the State Department of Public Works in the surveys, which are being made in order to scientifically accumulate, correlate, and analyze full data on traffic movements into and through the various cities.

Suspension as an Accident Preventive

WHEN TRAFFIC deaths in Pennsylvania reached an all time high of some 2,600 in 1937, it was determined that drastic action be taken. Accordingly, a committee appointed by the governor made the following recommendations: (*a*) Raise the speed limit from 40 to 50 miles per hour. (*b*) Enforce the 50-mile limit strictly, and for violations thereof, lift the offender's license for 90 days. (*c*) Re-examine all operators involved in serious accidents, with the view of determining their fitness to drive.

Within a comparatively short space of time, the third recommendation had to be modified, for it was found impossible for the State Police to examine all of those involved in serious accidents. However, the first two provisions are still being carried out. The 50-mile speed limit is again in effect, and since 1938 well over 100,000 operators have lost their licenses for 90 days for speeding.

During 1938 it became apparent that a 90-day suspension might be a very severe punishment under certain conditions, and as time went on, the policy was changed on several occasions in an effort toward fairness. The absolute terms of suspension were made variable at the will of the Board of Review and consistent with a good record and speeds not considered too extreme. At present the committee is dealing with all violators with considerable severity because of the current accident situation.

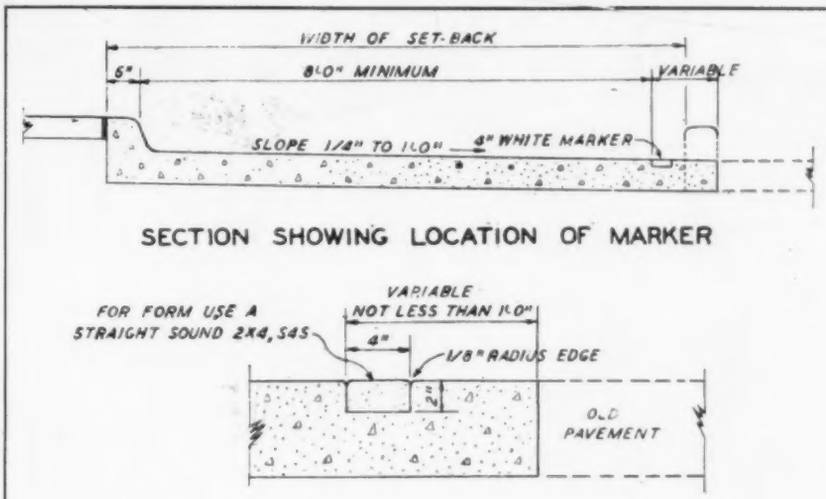
After eight years of trial, this system has succeeded in lowering Pennsylvania's highway death rate from 2,035 in 1938 to 1,380 or 7.9 per 100,000,000 miles in 1945. The national rate is 11.4. We are confident that despite today's traffic situation we can continue to anticipate a low death rate as long as a firm policy on speed violation is maintained.

T. ELMER TRANSEAU
Director
Pennsylvania Bureau of Highway Safety

Parking Ban Aids Traffic

A BAN ON PARKING in Dallas, Texas, between 4:30 and 6 p.m. has resulted in an average over-all increase in speed throughout the business district of 26.8%, according to W. C. Brandes, traffic engineer for the Department of Traffic Control.

Oklahoma City Traffic Marker



SPECIFICATIONS

THE MATERIALS SHALL CONSIST OF WHITE PORTLAND CEMENT AND WHITE SAND. THE MIXTURE SHALL CONSIST OF ONE PART WHITE PORTLAND CEMENT AND TWO PARTS WHITE SAND WITH SUFFICIENT WATER TO FORM A PLASTIC MIX. IMMEDIATELY AFTER THE CONCRETE IS PLACED AND STRUCK OFF A STRAIGHT SOUND BOARD SHALL BE EMBEDDED IN THE FRESH CONCRETE THE PAVEMENT EDGE SHALL BE EDGED WITH A 1/8" RADIUS EDGER AS SOON AS THE CONCRETE HAS HARDENED SUFFICIENTLY TO STAND, THE MARKER FORM SHALL BE CAREFULLY REMOVED THE BOTTOM OF THE RECESS SHALL BE ROUGHENED AND THE WHITE MORTAR PLACED IMMEDIATELY. THE WHITE MIXTURE SHALL BE COMPACTED WITH A WOODEN HAND FLOAT AND FINISHED WITH A HEAVY STEEL TROWEL THEN EDGED WITH A 1/8" RADIUS EDGER. IT SHALL THEN BE CURED USING THE SAME METHOD AS THE REMAINDER OF THE CONCRETE

STANDARD WHITE TRAFFIC MARKER

OKLAHOMA CITY ENGINEERING DEPT.

APPROVED FEB 1946. Ralph Lee CITY ENGINEER

Above are the specifications for a white line to be placed in paved setbacks on streets too narrow for angle parking. Oklahoma City Engineer Ralph Lee says that although the line has been used by the Bureau of Public Roads for a number of years to regulate traffic flow, as far as he knows his department is the first to use it to regulate parking.

Good street lighting makes all other improvements look better

THE recent outbreak of attacks on women... the sky-rocketing night traffic toll . . . increased robberies—all have caused people to talk more about street lighting than ever before.

Anyone who owes his present, or future, to the good will of the people must face this fact . . . and make sure that the street lighting in his town is, or soon will be, adequate to the needs of its citizens.

Adequate street lighting returns so very much for every dollar invested that its economic value cannot be questioned. In residential areas, it not only banishes gloom from the streets, but also promotes civic pride, and increases real estate values. Downtown, it speeds traffic, keeps vehicular accidents at a minimum, and stimulates nighttime window shopping. In general it aids police and fire departments, gives the community an appearance of progress.

If the street lighting in your community is not all that it should be, get in touch with your local electric utility company at once. Find out what's new in street lighting today... how little it costs.

For a free copy of the Illuminating Engineering Society's new Street Lighting Code, write The Street and Traffic Safety Lighting Bureau, 155 E. 44th St., New York 17, N. Y.

GOOD STREET LIGHTING—THE SIGN OF A GOOD PLACE TO LIVE

Outdoor Lighting

Dying Habits of Pedestrians

IN THE last two years 179 pedestrians have been killed in Connecticut at night in locations which were inadequately lighted, judging by the visibility requirements of present-day traffic.

On the basis of the day pedestrian fatality rate there should have been only 28 night pedestrian fatalities, a recent Connecticut Highway Safety Commission bulletin maintains.

Of the 127 pedestrian fatalities in 1944, 88 occurred at night in poorly lighted locations. Not one of these night pedestrian fatalities occurred on the 60 miles of heavily travelled urban thoroughfares which are adequately lighted. Last year 134 pedestrians were killed, 94 of them at night. Of the night fatalities, 91 occurred in locations having very poor visibility, while only 3 occurred on well-lighted streets. Thus, over a two-year period, fewer than 2% of the night pedestrian fatalities occurred on the 60 miles of well-lighted streets.

From this experience, it might logically be reasoned that adequate public lighting on the remaining 200 miles of heavily traveled ways carrying more than 20% of the state motor vehicle mileage and having an even greater percentage of pedestrian exposure would bring about a saving of 50 to 60 lives a year.

More Accident Fatalities During Winter Months

Between 5 p.m. and 8 p.m. there are annually 369 hours of daylight in the four summer months of May, June, July, and August under daylight saving time, and only 30 hours of daylight in the four winter months of October, November, December, and January under standard time. Except for sleeping, people's habits are more consistent in this three-hours' period than during any other equal length of time. In the last two years there were 7 pedestrians killed in the summer months and 48 in the winter months during the three-hour period, a ratio of 1 to 7.

This four months' three-hour period represents 4% of the year. In 4% of the year, 8.7% of the day and 27% of the night pedestrian fatalities occur.

Considering frequency, one pedestrian was killed every 20.5 hours in the winter months to one every 142 hours in the summer months, again a 1 to 7 ratio.

With so many factors the same for both periods and decreased visibility the only major difference, it is hard to escape the conclusion that impaired visibility coupled with failure to compensate for it is the outstanding cause of the abnormal record for the winter months.

In the light of the excellent record on the adequately lighted streets the 151 pedestrian victims these last two years might justly be considered needless human sacrifices.

Night Sports Bring Floodlighting Emphasis

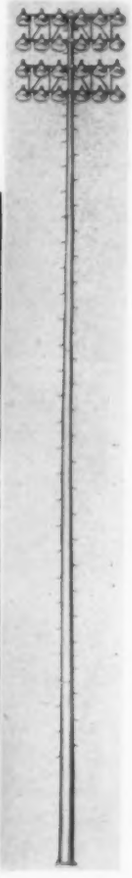
NOW THAT night sports have passed from the experimental stage, the lighting of athletic fields and recreational areas has acquired significance. Municipal officials, recreational directors, and sports promoters recognize the importance of obtaining maximum efficiency in light distribution while maintaining safety and economy.

Monotube floodlighting poles, produced by The Union Metal Manufacturing Company of Canton, Ohio, offer a combination of strength and long life which has brought them into favor for sports field lighting. The steel poles are cold rolled and tapered uniformly from to pto bottom with the greatest diameter at the bottom to provide maximum strength with a minimum weight of material.

The poles can be completely wired and the lights mounted and positioned on the ground before erection. Cleaning and servicing of the lights can be easily accomplished by unskilled labor from the safety platform, which also serves as the mounting frame for the floodlights. An anchorage type base construction simplifies erection, allow-

Floodlights mounted on tall steel poles provide uniform light on the playing field. The design and several sizes of poles to suit the particular field afford safety and economy as well as correct lighting.

WESTINGHOUSE PHOTO



A NEW ANGLE

in good street lighting

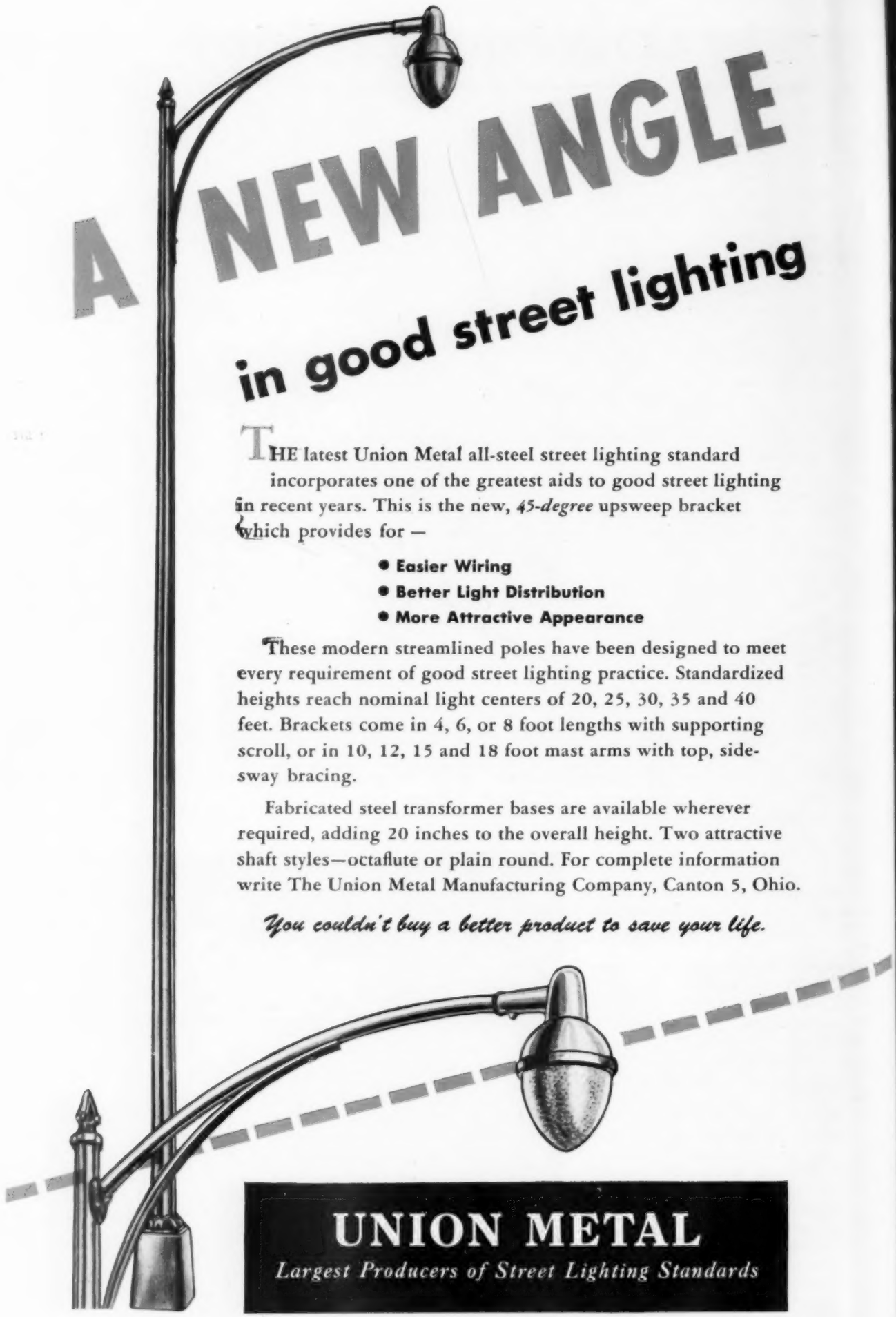
THE latest Union Metal all-steel street lighting standard incorporates one of the greatest aids to good street lighting in recent years. This is the new, *45-degree* upsweep bracket which provides for —

- **Easier Wiring**
- **Better Light Distribution**
- **More Attractive Appearance**

These modern streamlined poles have been designed to meet every requirement of good street lighting practice. Standardized heights reach nominal light centers of 20, 25, 30, 35 and 40 feet. Brackets come in 4, 6, or 8 foot lengths with supporting scroll, or in 10, 12, 15 and 18 foot mast arms with top, side-sway bracing.

Fabricated steel transformer bases are available wherever required, adding 20 inches to the overall height. Two attractive shaft styles—octaflute or plain round. For complete information write The Union Metal Manufacturing Company, Canton 5, Ohio.

You couldn't buy a better product to save your life.



UNION METAL

Largest Producers of Street Lighting Standards

ing positive alignment and avoiding ground line deterioration. Almost 100% salvage is possible if poles must be moved to new location.

Standardization of the poles is on four nominal heights—40, 60, 80, and 100 feet—to meet requirements for all major outdoor sports. This standardization of poles and mounting platforms makes possible a reduction in cost, permits stocks to be carried, and insures prompt shipments.

For many years Monotube poles have been used on city streets to support multiple services including trolley span wires, traffic lights, ornamental street lighting, police and fire alarm circuits, and other services formerly requiring a separate set of poles for almost every service.

Cost Still Limits Fluorescent Street Lamps

FLUORESCENT STREET lighting with lamps and luminaires available today is considerably more expensive than modern filament-lamp practices, according to the results of comparative studies made recently by the Research Sub-Committee of the Illuminating Engineering Society Committee on Street and Highway Lighting.

Advantages of fluorescent lamps, as revealed by analysis of their characteristics and performance, include high efficiency of light generation, low brightness, relatively long life, and enhanced visibility on wet pavements due to broad streaks of brightness from the elongated source.

On the other hand, there are disadvantages such as the inherently low light output per foot of source, the large size of luminaires, and the necessity for "jacketing" in cold weather.

In the studies—conducted in Cleveland, Detroit, and Schenectady—two of the installations for the comparative tests were provided by General Electric and the third by the Detroit Public Lighting Commission. Fluorescent lamps used were of the 100-watt white type, employed in experimental, optically simple, two-lamp luminaires. In two of the test installations the fluorescent luminaires were mounted at a 45-degree angle, while in the third, they burned horizontally. The fluorescent luminaires were compared with 6,000-lumen series filament lamps used in three modern-type luminaires.

In view of the results obtained in the test installations and in consideration of the high efficiency and long life of fluorescent lamps, the Committee recommended that manufacturers give further study to fluorescent-lamp luminaires suitable structurally for street lighting service and able to direct as much light at favorable angles up and down the street as may be practicable.

Kirk M. Reid, street lighting specialist at General Electric Nela Park Lamp Department, headed the Research Sub-Committee of nine experts.

Lighting in Cincinnati

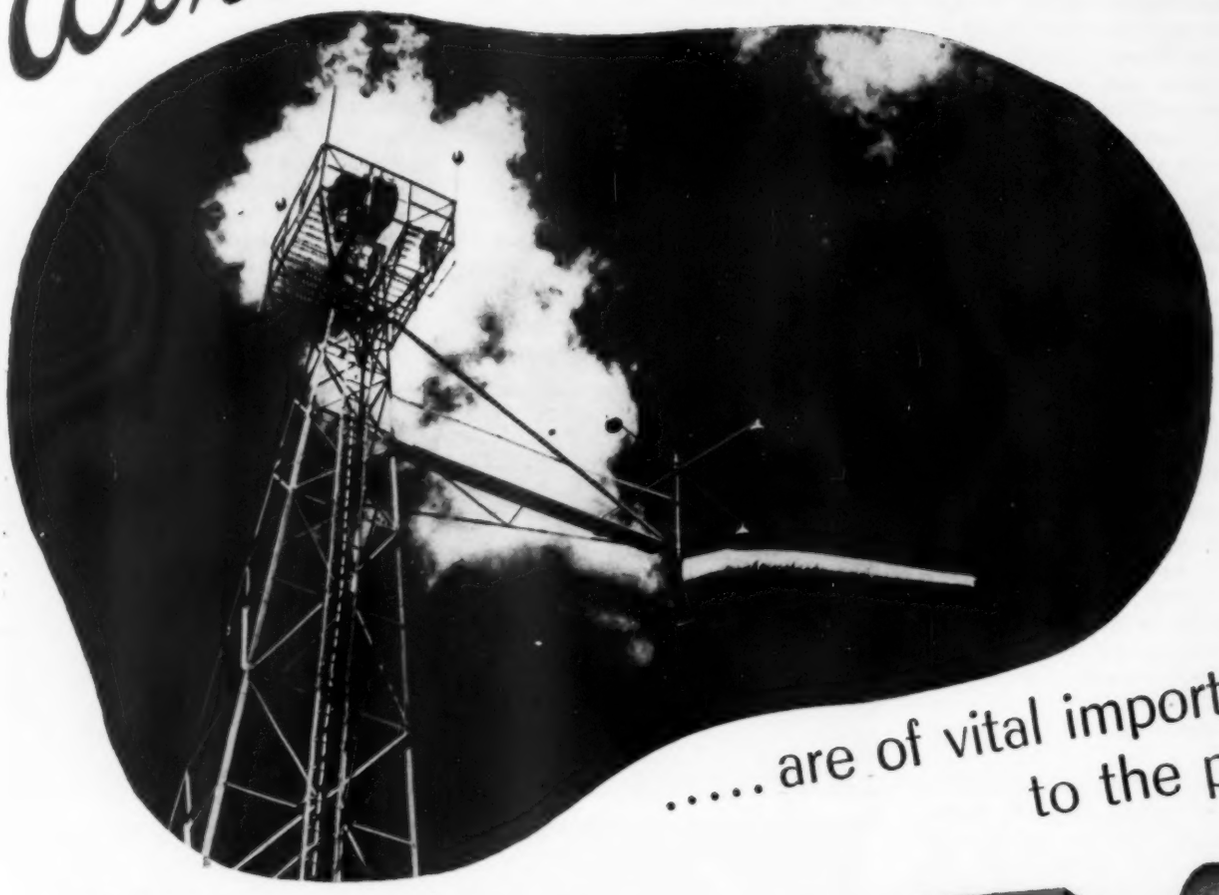
WHEN THE CITY of Cincinnati, Ohio, negotiated a new five-year contract with the Cincinnati Gas and Electric Company for general street lighting, unit prices for 77 different types of street and traffic lights were contained in the contract. Provision was also made for the gradual substitution of incandescent lights for nearly 5,000 obsolete arc lights then in service.

A new two-year contract was negotiated with the Welsbach Street Lighting Company of America for the maintenance of gas street lights at $14.75 per year per unit. The former price was $13.50.

Lighting at the Union Terminal approach between Freeman Avenue and the property of the Union Terminal Company has been improved by doubling the candlepower in each of the existing street light units. Funds have been appropriated for relighting 44 boulevard lights on the Eighth Street viaduct and 189 boulevard lights on Central Parkway. These lights were turned off in 1932.

Three views of the fluorescent-filament street lighting installation in Cleveland, Ohio. Top to bottom: daylight view, the fluorescent system at night, and the incandescent system at night.

Wind and clouds



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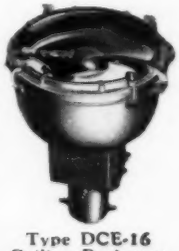
Type WT Wind Tee is illuminated and indicates the true wind direction day or night. **Type WC Wind Cone** (shown in the top illustration) is illuminated and also gives an indication of the wind velocity.

Crouse-Hinds Company manufactures a complete line of airport lighting and control equipment. Write for additional information.

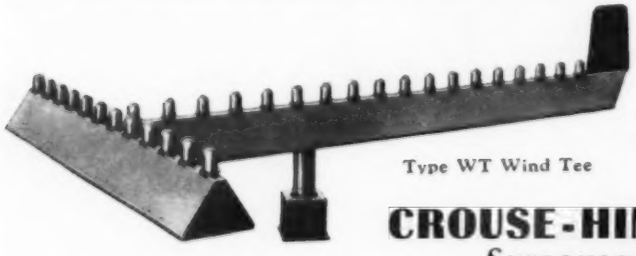
Ceilometer Projector

Ceilometer



Type DCE-16 Ceiling Projector

Clinometer



Type WT Wind Tee

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The Protection of the Public Interest in Public Contracts

Chapter X from a new ninety-page monograph with this title by Herman G. James, J.D., Ph.D., isued by the Public Administration Service, Chicago, Ill.

THE FIELD of public contracts has been steadily expanding on all governmental levels, and this expansion shows no signs of abatement. This is the result of increasing activity by the government in what are frequently termed proprietary undertakings, as well as in the enormous expansion of what are generally recognized as governmental functions.

The conduct of these operations involves contracts for construction, alteration, and repair of public works, the purchase of equipment, materials, and supplies, the hiring of services, the sale or lease of real and personal property, and the granting of concessions. Hundreds of millions of dollars of public money are involved annually in such contracts.

In all these cases the public interest demands that competitive bidding and award of the contract to the bidder making what is on the whole the most advantageous offer to the public, should be observed. Everything that contributes to this end should, as far as possible, be embodied in clear and understandable terms in legislation directing how such contracts should be let.

To Encourage Honesty and Efficiency in Public Officials

Complete success cannot be hoped for in this direction, because, in the last analysis, honesty on the part of public officers and interest on the part of the public are essential to realization of the desired ends. Experience has demonstrated, however, that much can be done by legislation and direction to make it easier both for the public authorities to be honest and efficient and for the public to be well informed. It is neither desirable nor possible to take away all discretion from the awarding authority. But to the extent that discretion remains, the possibility of abuse exists. The problem becomes one of limiting that discretion in unmistakable terms and assuring that, if abuse occurs, it will be both discoverable and remediable.

Among the safeguards which experience has shown to be desirable and workable are those relating (1) to the securing of bids, (2) to the awarding of the contract, and (3) to the measures necessary to insure that the contract once awarded shall be executed in accordance with its terms.

The process of calling for bids should be described in the greatest possible detail and should include adequate advertisement, which means widespread notice in readily accessible form, proper description of the kind of proposal wanted with incorporation or reference to detailed specifications, secrecy of bids, and the public opening and filing of bids. Collusion of bidders among themselves or with the public officers calculated in any way to interfere with free open competition should be expressly prohibited and made a ground for throwing out bids so secured. The interest of public officers in bids should be forbidden.

Awarding Contracts

The award of the contract should be made to the lowest responsible bidder or the highest responsible bidder, as the case may be.* Considerable discretion must be left to the awarding body in determining who is or who is not responsible, but rejecting of bids that are the lowest or the highest in favor of other bids should be done only by an extraordinary majority justifying such action in its public records.

Proper safeguards for inspection and approval, bonds for faithful performance, and adequate remedies in case of violation of the requirements should all be incorporated in the laws governing the award of contracts.

Many details will have to be determined by the awarding authority, which will naturally vary with the size and character of the particular contract, but the basic requirements should be laid down in the general legislation in such a manner that it will be possible only for the awarding authority to increase the public protection, not to diminish it in any rules and regulations that may be issued by an authority acting under the law.

Permissible or desirable exceptions to the requirements of competitive bidding and award to the lowest responsible bidder should be kept to a minimum and adequately defined in the governing law.†

When further experience with the letting of contracts indicates desirable modifications in the prescribed procedure, such modifications should be made. But it must be remembered that honest public officials are likely to be irked by restrictions on their freedom of action in the public interest, and dishonest ones will, of course, try to reduce such restrictions. Hence, there will always be a pressure in favor of reducing the safeguards. Only an alert and intelligent public interest can successfully combat it.

* The lowest bidder when proposing to sell something to the public authority; the highest bidder when the contract calls for payment to the city.

† For a suggested draft of an act governing public contracts, see Appendix I of the monograph from which this chapter is quoted. Appendix II of the monograph contains a summary of national, state, and local provisions now in effect.

Is a Big Discount for Prompt Payment of Realty Tax Desirable?

FOR MANY YEARS, the city of Kansas City, Mo., has followed the practice of allowing a discount of 6% for the payment of ad valorem taxes within 30 days after the date they become due. This year, with the bills due June 1, the city enclosed an attractive leaflet entitled "Your Investment in Kansas City," showing the taxpayers where the municipal revenues come from and where the money goes.

In reply to a question raised by THE AMERICAN CITY as to whether the gain to the city in prompt tax collections is worth the rather substantial cost involved in the 6% discount, City Manager L. P. Cookingham writes:

"The net result of this practice has been that approximately 85% of all taxes so levied are collected during this first month. The advantage of this system lies in the fact that this practice makes it unnecessary for the city to borrow on short-term obligations for the financing of current expenditures. Our fiscal year begins on May 1, and taxes are due on June 1.

"During the fiscal year ended April 30, 1946, discounts amounting to approximately $366,000 were granted. This figure amounted to over 5% of the total taxes levied during the year.

"This discount has been allowed for at least 20 years and the people have become so accustomed to it that I doubt whether any change could be made. We feel that it does expedite the early payment of taxes and the greatest benefit, of course, comes to the larger taxpayers.

"We have often thought of recommending a reduction from 6% to 3%, but each time we mention this change the Real Estate Board and other interests vigorously oppose it."

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When the auto manufacturing city of Flint, Michigan, decides to test meters, it can draw on local testing facilities second to none. Flint can make its tests the most gruelling, exacting and exhaustive. In the Flint meter test, just completed, the New Mark-Time ***Perfection*** came through superior to all other meters tested. Investigate this meter that keeps operating steadily, and producing revenue for you, despite below zero temperatures, sleet storms or blistering heat. Write for details today.

More New Perfection Sales Since V-J Day Than of Our Former Model in 10 Years Prior

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MANUFACTURERS **HARTFORD 6, CONN.**

MARK-TIME

Post-War Financing of Municipalities

(*Continued from page 98*)

anywhere before. In 1938, New York City broke another precedent by imposing a cigarette tax, and in 1939 still another precedent, by levying an "occupancy" tax. At this very moment it is establishing another record by imposing a pari-mutuels tax and a tax on hotel rooms. In 1938 Philadelphia shocked conservative opinion by imposing an admissions tax on amusements, and in 1939, the first real municipal income tax. Other cities followed these examples by enacting similar levies or introducing others, such as supplemental local liquor license, motor vehicle license and gasoline taxes.

The conclusion to be drawn from this experience is clear: municipalities can successfully levy non-property taxes, thereby broadening their revenue base and insuring more stable income. The imposition of such taxes need not be in substitution for additional assistance from the state. It may very well be supplementary. The authorization of such local taxes can cover special situations which cannot be fitted into the general pattern of state assistance. It can also be applied generally, thus making it possible for all municipalities to extend their services beyond the scope permitted by the existing local resources. Types of levies can be selected for local application which, while fitting local requirements, will not interfere with either federal or state levies. The great advantage of the program of broadening local taxing powers is that it helps to preserve local initiative and local fiscal independence.

Courageous and responsible officials will welcome an extension of their local taxing powers; but timid souls will not want to be placed in a position of either having to accept responsibility for the inadequacy of their local services or of having to go before the people with proposals to impose additional taxes to correct them. Without regard to facts, they will prefer to accuse the state of failure to provide adequate assistance and of responsibility for any shortcomings in local services.

The number of new taxes which may be imposed locally under varying conditions is large, but only a few will fit the conditions of a given municipality or group of municipalities. Careful selection must be exercised. Each tax has its good points and its bad ones. The task of selection is difficult and expert advice can help. In the eyes of taxpayers, all new taxes are bad. The problem becomes one of selecting the least objectionable taxes. Whatever point of view is adopted, there can be no disagreement on the importance of exercising selection. I should like, therefore, to have it clearly understood that in reviewing both the good and bad points of the numerous taxes, I do not recommend their wholesale adoption in any one community. In approving new levies upon themselves, the people of a municipality should, at the same time, insist upon improvements by their officials of their methods of financial management. They should not permit further waste of their funds.

New Taxes Suitable for Imposition in Cities of Any Size and Type

Among the numerous taxes, the following can be utilized by cities of almost any size and type: taxes on utilities, amusements, liquor licenses, and motor vehicles. They are fair, productive, stable, and easily administered.

The *utilities tax* has become very popular among the cities. It is levied in the great majority of cities of more than 100,000 population and in a large number of smaller ones. It is in use in almost every one of the 62 cities of the State of New York. At the rate of 1% to 2% of gross receipts, it yields a revenue of $1 to $2 per capita. This is not a large revenue when compared with the total city revenue, which averages $50 per capita for the country as a whole. The range of city revenue is from $35 per capita for the smaller cities to $90 per capita for the city of New York. As a means for increasing revenues, the utilities tax is not negligible. In so far as the tax is absorbed by the utility companies, it returns to the community a part of the monopolistic profits which the community has helped to create. In so far as it is shifted to consumers, it procures a contribution to the city treasury from benefited citizens who are not property owners. In either case, its incidence is fair.

The *amusements* or *admissions tax* has not as yet been widely accepted. It is imposed in Philadelphia, Charleston, several cities in California, most of the cities in Washington, and a few scattered ones in other states. Inasmuch as it applies to an item of general consumption, even though of luxury type, it is not received favorably by consumer groups and, hence, is politically less expedient than some of the other levies mentioned. However, it is bound to gain wider acceptance in the future. One of its great virtues is that it procures a contribution to the support of the city's government from the non-residents who come to the city to partake of its amusement facilities and who use the city's services in connection therewith. At a relatively moderate rate of 5%, which prevails in most of the places mentioned, it yields a revenue of approximately $1 per capita. When the federal government reduces or abolishes its present tax on amusements, the tax could be imposed by the localities at higher rates and produce correspondingly larger amounts of revenue.

Liquor license taxes are a fruitful source of revenue, and can be found today in most of the larger and many of the smaller cities in most states. Their yields range between $1 to $2 per capita, and they have even larger potentialities.

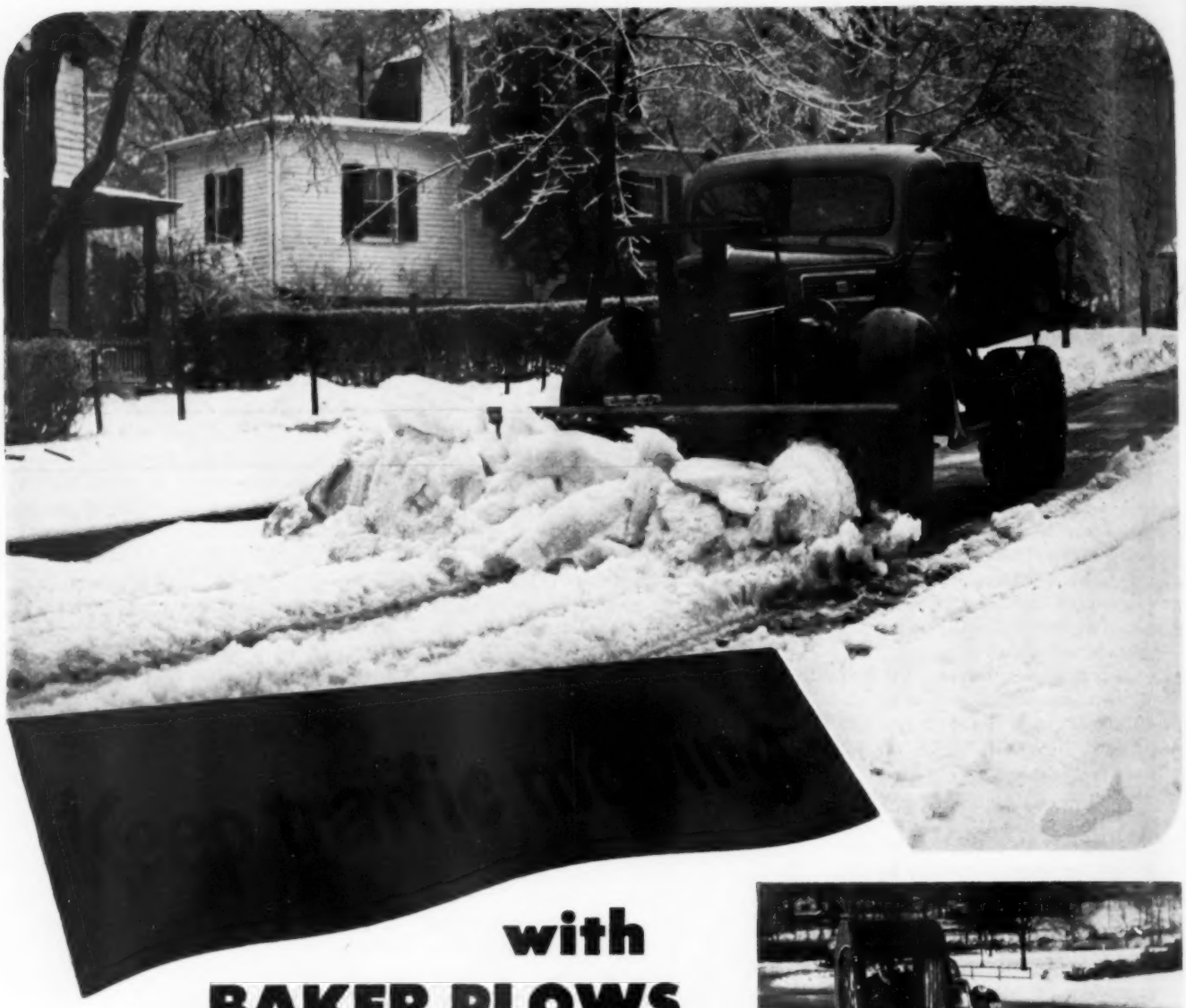
Motor vehicle license taxes are levied locally in about ten states, including Illinois, Missouri, and Virginia. At rates of $5 to $25, depending on the type of vehicle, they yield a revenue of more than $1 per capita in many places. Their imposition locally is justified by the more extensive services performed by the cities for their own resident motorists. The right to levy these taxes should not be denied to localities.

New Taxes Usable Only in Larger Cities and Those of Special Type

In contrast to the above group of taxes which can be used in all types of localities, some taxes can be used successfully only in the larger cities, or those of special type. These are taxes on the gross receipts of business, general sales, incomes, rents, hotel room charges, telephones, liquor sales, and cigarettes.

Gross receipts business taxes are an extension of business licenses and, in part, are a substitute for the taxation of personal property of business under the property tax. They are imposed in New York City, Los Angeles, Seattle, Richmond, and a few other cities. They are more equitable than the traditional business license fees and are good revenue producers. At the rate of one-twentieth to one-tenth of 1%, they yield a revenue of $1 to $3 per capita, depending on the scope of business covered. They are politically expedient and are bound to be used more generally in the future.

So far, the general sales tax is levied only in New York City, Los Angeles, San Diego, New Orleans, and a few smaller places. It was introduced in 1945 in Atlantic City, but was declared shortly thereafter to be unconstitu-



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tional by the Supreme Court of the state. The sales tax is tremendously productive. At the rate of 1% it has produced in New York City a revenue of nearly $40,000,000, or more than $5 per capita. At the double rate effective this year, it is expected to produce, under a condition of increased buying, more than double that amount. Consumer groups generally are opposed to this tax on the ground that it burdens especially the poor. In reality, where food is exempted (as in New York City), this argument loses some of its force. Business groups are also opposed to the tax, claiming that it drives shoppers away from the city. This result does not necessarily follow, however. In large shopping centers which offer consumers a wide choice of goods at lower prices than in suburban areas, the tax will not deter shoppers if levied at a moderate rate. It can also be successfully applied in isolated cities. The tax has the advantage of forcing non-residents employed in the city, or those coming to shop there, to contribute to the financing of the city's services. Where a state sales tax is in effect, only a moderate additional local sales tax, if any, may be introduced.

The *income tax* can be successfully levied municipally only with application to salaries and wages, and earnings of businesses and professions. It cannot be successfully applied to incomes of individuals from dividends and interest, since recipients of such incomes can evade taxation by shifting their residence to outlying communities. Nor is it feasible to apply it municipally at progressive rates and with personal exemptions. To date, such a tax has been levied only in Philadelphia and recently was approved by a referendum in Toledo. In the latter city, it will apply to net income of corporations as well as of individuals, thereby also assuming the character of a business tax. Like the sales tax, the income tax (as applied without personal exemptions) is tremendously productive. At the rate of 1% in Philadelphia, it yields a revenue of more than $22,000,000 ($12 per capita), or more than one-fourth of the city's total revenue. The bulk of its yield is collected through employers, making its administration simple. This tax is probably more closely related to ability to pay than the sales tax, although reliable supporting data to that effect are lacking. It has the merit of being direct and broad in application, and of securing substantial revenue from non-resident workers. It taps the latter's incomes even more effectively than the sales tax. It can probably be well administered locally, however, only in the larger and medium-sized cities and can be applied only with considerable circumspection where a state-wide tax is already in effect.

No city in this country levies a *tax on rents* collectible from occupants, such as is imposed by foreign cities. Proposals for such a tax have been repeatedly considered over the past ten or more years in New York City, but have never gained wide acceptance. Yet a rent tax could be imposed fairly and productively. It could be applied to all residential and business rents exceeding a certain sum, and also to imputed rents of owner-occupied premises in excess thereof. It can be collected through landlords and operate, in effect, like an income tax on residents. It reaches directly a larger proportion of beneficiaries of municipal services than the property tax, thereby more readily enlisting the interest of the electorate in the efficient and economical management of these services. It would be practicable, however, only in a city with a large tenant population; in one comprised largely of home-owners, it would operate like a duplicate property tax.

So far, the *tax on hotel room charges* has been adopted only in New York City, where it is limited to transients and it was incorporated in Atlantic City, in its general sales levy, since declared invalid. It is a fair tax, compensating the city in part for the many services it furnishes to transients, and accordingly, it is most suitable for large commercial cities. In New York City it is imposed at a rate of 5% on hotel rooms which rent for $2 or more per day, and is expected to produce an annual revenue of more than $7,000,000, or approximately $1 per capita.

A *tax on telephone service* is levied only in a few cities, and is permissible in New York City for housing purposes. Such a tax probably cannot produce much revenue except in commercial cities.

Taxes on liquor are imposed in Washington, D. C., New Orleans, and Birmingham. *Taxes on cigarettes* are levied in St. Louis, Kansas City (Mo.), Denver, Birmingham, and several smaller cities. However, except in large or isolated cities, these taxes can be evaded easily through purchase of liquor or cigarettes outside the city limits and are impracticable.

Local *gasoline taxes* are found in several cities, such as Washington, D. C., St. Louis, Kansas City (Mo.), and Birmingham. However, they can be even more easily evaded than the liquor or cigarette taxes, and are not recommended for general use.

Space does not permit a detailed discussion of the possibilities for expansion of the non-tax revenues of cities. *Special assessments,* which provided an important revenue during the period of the 1920's, again will become important with the revival of construction. The cities will have to exercise great care in the use of this expedient, to avoid the unfortunate experience of the 1930's, when defaults of property owners on their assessments precipitated defaults by cities on their debts.

In some cities, substantial gains in revenue may be obtained through upward revision of *service charges* on municipal water supplies, gas and electric plants, and transportation facilities. Deficits in the operation of such undertakings may be reduced or eliminated and net revenues from their operations may be realized.

Increase in miscellaneous revenues may also be obtained through revision of *license fees, rentals on special privileges, inspection charges,* and other such items, or through the addition of new types of charges, such as those for parking. As pointed out by Phillip H. Cornick in an excellent study published twenty years ago, such revisions of these heterogenous revenues may be time-consuming and often have failed to produce sufficiently worthwhile results. Care must be exercised let they produce a multiplicity of nuisance charges. This observation does not apply to the installation of *parking meters.*

Some cities which are heavily restricted by tax limitations have established special charges for *garbage collection, sewage disposal,* and other city services. Such charges tend to complicate municipal financing and to harass taxpayers. They represent a backward step and cannot be recommended in normal situations. It is more convenient to pay a few relatively comprehensive taxes than to pay a great number of petty ones.

Text of an address delivered at the National Tax Conference in Chicago in June.

Sources of Information on Municipal Taxation

Tax Institute, 150 Nassau Street, New York City
National Tax Association, c/o State Board of Equalization, Sacramento 14, Calif.
Tax Foundation, 30 Rockefeller Plaza, New York City
Municipal Finance Officers' Association
National Association of Assessing Officers
Federation of Tax Administrators
International City Managers Association
Headquarters of the last four: 1313 East 60th Street, Chicago, Ill.

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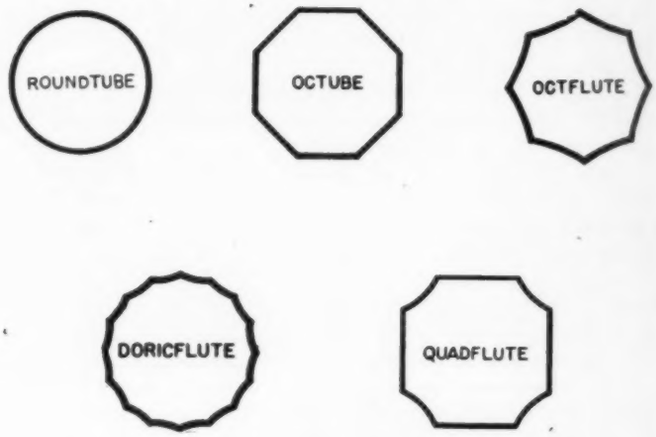

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The City as a Production Unit

(*Continued from page* 86)

sources of supply for semi-finished products and components. These sources of supply constitute just as real a resource as a bed of limestone or any other natural resource with which industrial surveys have been traditionally concerned. Furthermore, inasmuch as each city's industrial structure is peculiarly its own, the opportunities for filling in holes here and there to secure better integration will vary with each community, and should tend toward a more efficient distribution of industry on a national basis.

Serious attention is merited by Mr. Baker's identification of the beneficiaries of the "going concern" value of the city. According to his calculations, merchants, for example, participate in this value to about four times the extent of their share of property values, whereas home owners, on the other extreme, participate only to one-fourth of their share of property values. Yet cities, to embark on programs commensurate with their importance, must still depend largely on the antiquated property tax for funds.

This suggests the high desirability of a parallel statement along the lines of Mr. Baker's article setting forth the stake of the state and of the nation in his city of 100,000. Maybe such a statement could hasten much-needed reforms in the more equitable distribution of tax revenues among the various governmental levels.

VICTOR ROTERUS, Chief
Research Section, City Planning Commission, Cincinnati, Ohio.

Soil Stabilization

(*Continued from page* 78)

face consisting of one inch of asphaltic binder and one inch of densely graded bituminous wearing coarse is used. These are hot plant-mixed materials, handled and laid by a method similar to sheet asphalt construction.

The double seal coat, mentioned as having been used on some streets, consists of the use of from 0.70 to 1.00 gallons of quick-breaking asphalt emulsion and from 30 to 60 pounds of slag or limestone chips per square yard of pavement surface. The aggregate may be of two different gradations: one running from No. 8 sieve to ½ inch; the other from No. 16 to ⅜ inch.

The application sequence is as follows: somewhat more than one-half of the bituminous material is applied, and the coarse stone chips spread over it. This layer of stone is broomed and rolled; then, the balance of the bituminous material is applied and covered with the fine stone chips; and, finally, more brooming and rolling.

Stabilized base course (4 inches compacted thickness) for the airport runways cost $1.02 per square yard in 1938. No exact cost figures are available for stabilized bases for streets, but it is probably somewhat less, because this work was not so carefully tested and controlled.

Double seal coats were applied by city forces for 20 to 25 cents per square yard in 1941.

On the housing projects the cost of furnishing and compacting the gravel is unknown, but the asphalt emulsion treatment of the top 1½ inches was done under contract for 15 cents per square yard, and the 2 inches of bituminous surface course cost 90 cents per square yard in 1944.

Planning Cities for the Atomic Age

(*Continued from page* 76)

Perhaps it is because the scientists in the field of urbanism have not made a sufficiently convincing presentation of their case. Perhaps it is because the dangers to our national well-being from spreading urban blight are not as clear cut as those from atom-bombs and the advantages of pleasant living do not seem as exciting as the somewhat blurred images of a new world of science.

"There is encouragement in the stir of public debate about atomic energy and its uses and controls. Whether from fear of its dangers or the lure of its unknown opportunities, the American people seem to be moving toward a course of courageous and intelligent national action with respect to it. Perhaps if the problems and the opportunities in courageous city planning were stated as convincingly we could look forward also to billion dollar institutes for research in urbanism, to well-financed 'Urban Development Authorities,' even to Operations Crossroads devoted to the task of finding out what kinds of cities will stand up best under the conditions and the hopes of modern life.

"I do not advocate any specific form or pattern for the nation's cities in the atomic age, either as a means of lessening its very manifest dangers or as a means of capitalizing upon its promised opportunities. But I know that a new force of incalculable magnitude has been placed in the hands of man, for good or evil, and that we must orient our thinking and our acting to it. Even before the atomic era came we knew that the great sprawling masses of our metropolitan areas were inefficient, uneconomical, and dangerous.

They did not afford good living in the pre-atomic age and they did not offer protection from destruction, either by blight or war. The general pattern of decentralization that was indicated as desirable then appears, on the face of it, to be indicated with increased force now. The atomic age adds a potent warning that we had better stop following old patterns merely because they are habitual and face up to the new facts, hazy as their outlines may be at the moment. The atomic age is here. It is silly to go on planning and building as though it were not.

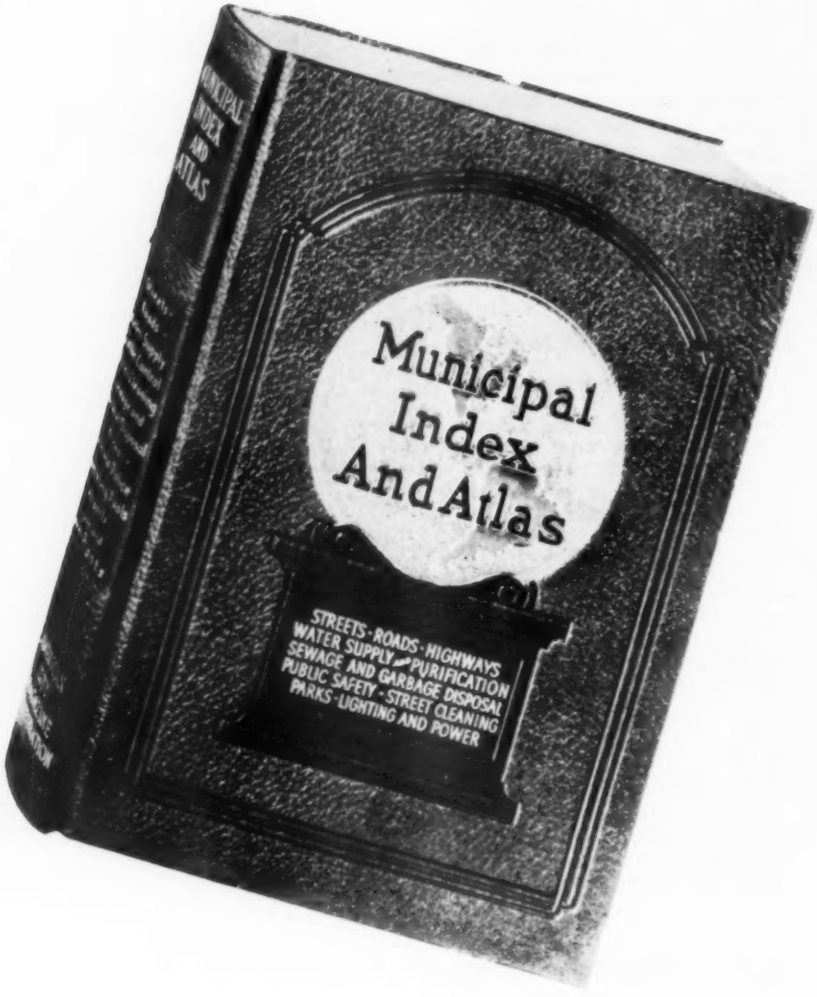
"It is essential, of course, that city planners join with all others in working for a world order that will remove the threat of atomic war. But it lies in our special field of responsibility to work for a national understanding of the means to better urban living in the atomic age. No one can minimize the importance of national survival, but survival in itself is not enough."

Community Project Awards by United States Junior Chamber of Commerce

SEVERAL hundreds awards to individual Junior Chamber of Commerce units in many cities, for excellence in specific community projects during the last year, were made at 24th National Convention of the United States Junior Chamber of Commerce, held in Chicago during the last week in June. Following is a list of the first place winning cities.

*Project**	*Under* 10,000	10,000-100,000	*Over* 100,000
Agriculture	Elkin, N. C.	Lincoln, Nebr.	Oklahoma City
Americanism	None	Evansville, Ind.	Flint, Mich.
Aviation	Springville, Utah	Ashland, Ohio	San Diego, Calif.
Christmas Activities	None	Bellingham, Wash.	Atlanta, Ga.
Community Face Lifting	None	Lincoln, Nebr.	Salt Lake City, Utah
Community Welfare	(All Groups)	Charleston, W. Va.	
Emergency Service	(All Groups)	Pasadena, Calif.	
Fire Prevention	None	Cape Girardeau, Mo.	Portland, Ore.
Government Affairs	Spanish Fort, Utah	Aberdeen, S. D.	Atlanta, Ga.
Internat'l Relations	(All Groups)	Barberton, Ohio	
Leadership Training	None	Pasadena, Calif.	Detroit, Mich.
Public Health	Brookings, S. D.	Midland, Texas	Oklahoma City
Public Safety	None	Anderson, Ind.	St. Paul, Minn.
Sports & Recreation	Monett, Mo.	Pasadena, Calif.	Oklahoma City
Veterans Affairs	Winter Haven, Fla.	Colorado Springs	Oklahoma City
Youth Activity	Bountiful, Wash.	Cudahy, Wis.	Denver, Colo.
Traffic Safety	None	Provo, Utah	Spokane, Wash.
Tax Education	None	St. Joseph, Mo.	Yonkers, N. Y.

* Specific and detailed information on winning projects may be obtained from the Junior Chamber of Commerce in each city.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Who's Who in Municipal Supply

This is the exclusive feature of the Municipal Index which makes it possible to use the Index effectively for studying, selecting and purchasing equipment and materials for municipal departments. "Who's Who in Municipal Supply" consists of brief messages to municipal officials from all the manufacturers, who are sufficiently interested in governmental business to contribute a functional statement about what their products can do for city officials. If you do not have the latest Municipal Index on hand please let us know.

THE MUNICIPAL INDEX

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Municipal Law Notes and Decisions

Prepared by NATIONAL INSTITUTE OF MUNICIPAL LAW OFFICERS, Washington, D. C.
Charles S. Rhyne, Executive Director

Admissions Tax—Mandamus to Compel Submission to Voters—Sufficiency of Petition

In mandamus to compel repeal of city ordinance fixing license tax on admissions to places of amusement within city of Chico or to submit it to voters, held that petitions for referendum were adequate, though affidavits of solicitors of signatures did not comply with provision of election code, with respect to dates between which all signatures of petition were secured, where signers themselves affixed dates of signing on petition, affidavits were filed within statutory period, and there was no contention that petitions were not signed within statutory period by requisite number of qualified electors. *Whittemore* v. *Seydel*, 168 Pac. (2d) 212 (Cal. App., Apr. 22, 1946).

Annexation—Determination of Utilities Values in Annexed Territory

In proceeding by developers of subdivisions annexed by city to ascertain fair value of water, gas, and sewer utilities constructed by developers, held that appraisers properly adopted reproduction cost as of date of annexation less depreciation rather than original or historical cost less depreciation as the more dependable method of fixing fair value of utilities. *City of Richmond* v. *Henrico County*, 37 S. E. (2d) 873 (Va., Apr. 22, 1946).

Barbers—Examination of—Ordinance In Conflict With State

Where city ordinance required barber to be examined at least once every six months by director of health, held that such ordinance is not in conflict with statute requiring each barber, to whom a certificate of registration is issued, to be examined at least once a year and as often thereafter as board of barber examiners may deem necessary by licensed physician designated by state board of health. *Vest* v. *Kansas City*, 194 S. W. (2d) 38 (Mo., Apr. 30, 1946).

Bonds—Approval Required of Majority of Voters

In proceeding for validation of city bonds, in which an intervention objecting to validation was filed, held that constitutional provision prohibiting issuance of municipal bonds without assent of majority of qualified voters of municipality voting in election for such purpose, requires favorable vote of only majority of electors actually voting, not majority of all qualified voters. *McKnight* v. *City of Decatur*, 37 S. E. (2d) 915 (Ga., Apr. 4, 1946).

Building Permits—Housing Shortage

In proceeding to compel granting of building permit, held that critical housing shortage did not warrant granting of application for permit to build five rustic cottages and one service cottage on lot in violation of county zoning regulation limiting use of lot to one-family residences and forbidding apartments. *County Com'rs of Anne Arundel County* v. *Ward*, 46 Atl. (2d) 684 (Md. Apr. 12, 1946).

Franchise Tax Proceeds—Method of Distribution

In proceeding to compel distribution of franchise tax money, held that under Tax Law Section pertaining to allocation of corporate franchise tax moneys between municipal subdivisions when no village is involved, town receives entire amount; when all corporate property is located within village, town receives its proportion, depending upon amount of taxes raised; and when property is partially within and partially without village, town is entitled to its proportionate share represented by value of property outside village free from any claim by village and village is limited in its claim to portion represented by value of property within village. *Village of Elmira Heights* v. *Fiester*, 61 N. Y. S. (2d) 532 (N. Y. Sup. Ct., Chemung Co., Apr. 18, 1946).

Carriers—City Mileage Tax on Affirmed—Authority of State Governor to Exempt Out-of-State Carriers from

In suit for declaratory judgment as to validity of mileage charges imposed by ordinance on common carriers by motor vehicle for use of city streets, held that a city, being required to maintain its streets selected as state highway routes to standard of outside highways as condition of state's contribution toward maintenance thereof, "maintains" such streets within statute authorizing city to impose reasonable mileage charges on motor vehicle carriers for use of streets maintained by city, but governor of state may make reciprocal contracts with other states, relieving residents thereof from payment of taxes imposed by state, as against contention that local taxes are not affected thereby. *Brooks Transp. Co.* v. *City of Lynchburg*, 37 S. E. (2d) 857 (Va., Apr. 22, 1946).

Officers—Failure to Qualify

Where elected officers of Village of Cuyahoga Heights failed to qualify within 10 days after notification of election by giving bonds and taking required official oaths, held that such failure did not result in forfeiture of offices, where they qualified before their terms began, since statutes relating thereto are directory only. *State ex. rel. Jones* v. *Farrar; Same ex rel. Domzalski* v. *Gallitz*, 66 N. E. (2d) 531 (Ohio, Apr. 24, 1946).

Pensions—Reentry Into City's Service

Where fireman of City of Peoria had retired and received pension payments, and thereafter reentered active service of fire department, held that he was not then a "retired fireman" within meaning of Firemen's Pension Fund Act and was not entitled to pension payments while in such active service and receiving salary of active fireman. *People ex rel. Malone* v. *Mueller*, 66 N. E. (2d) 516 (Ill. App., Mar. 8, 1946). *Reh. den.* May 17, 1946.

Playgrounds—Condemnation of Realty For As Creating Landlord-Tenant Relationship Under OPA

Where realty was condemned by city for construction of community playground, and city was ready to proceed with construction, held that relationship of landlord and tenant as between city and occupants of realty was not created so as to make applicable regulation under Emergency Price Control Act requiring authority from Price Administrator for eviction of a tenant. *Porter* v. *City of Charleston*, 65 F. Supp. 224 (U. S. D. C. S. D. W. Va., Mar. 26, 1946).

Policemen—Discharge

Evidence did not justify removal of police officer of City of Hoboken for failing to report a known violation of law and neglect of duty as patrolman in failing to respond or take action when notified of holdup and robbery by two young boys where officer's action in failing to respond to notice was consistent with conscientious effort to perform his full duty. *Mullen* v. *Ziegener*, 46 Atl. (2d) 783 (N. J. Sup. Ct., May 1, 1946).

Policemen—Liability of City For Negligence of

In action against city for death of motorist from injuries sustained in collision at intersection, held that under statute which prior to amendment made municipalities of over 500,000 population liable for injuries caused by negligence of members of police department in performing duties as policemen, city could not avoid liability on ground that driver of city vehicle was engaged in performing governmental function with immunity to city for his torts, in absence of question raised as to constitutionality of statute. *Heh* v. *City of Chicago*, 66 N. E. (2d) 491 (Ill. App., Apr. 24, 1946).

Sidewalks—Constructive Notice of Defects

In action for injuries sustained as result of accident on allegedly defective sidewalk, held that "constructive notice" of dangerous or defective condition in sidewalk can be shown by long-continued existence of conditions, and it is for jury to determine whether condition complained of has existed for sufficient time to give municipality constructive notice thereof. *Jones* v. *City of Los Angeles*, 168 Pac. (2d) 480 (Cal. App., Apr. 26, 1946).

Taxation—Machinery Owned by Defense Plant Corporation Subject to Local Realty Taxes

Under provision in RFC Act subjecting real property of the corporation and its subsidiaries to local taxation, held that unattached or slightly attached or movable machinery of subsidiary in Pennsylvania engaged in manufacture of aircraft propellors to be used in war effort was taxable as real property in view of Pennsylvania statute permitting taxation of manufactor's machinery which is necessary to constitute manufactory, whether fast or loose, where a discrimination was not effected against federal government. *Reconstruction Finance Corporation* v. *Beaver County*, 66 Sup. Ct. 992 (U. S. Sup. Ct., May 13, 1946).

Water Plant—Acquisition by Borough— Reviewability of Commission Order

Where Public Utility Commission refused water company's motion to dismiss borough's application for approval of its acquisition of such company's plant as not containing description of plant, statements of cost of operations and revenue thereof, precise manner of financing purchase and borough's borrowing capacity, or copy of borough's resolution authorizing purchase. It was held that such refusal was not an "order" reviewable by Superior Court on appeal, as commission had full authority over procedural matters raised by motion. *Mercer Water Co.* v. *Pennsylvania Public Utility Commission (Borough of Mercer, Intervenor)*, 46 Atl. (2d) 597 (Pa. Super. Ct., Apr. 23, 1946).

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Zoning and Planning Notes

Edited by FRANK B. WILLIAMS
Author of *The Law of City Planning and Zoning*

Non-conforming Use—Extension

ILLINOIS—*Mercer Lumber Companies* v. *The Village of Glencove,* Supreme Court, March 22, 1945, reported in 390 Ill. page 138.

The Mercer Lumber Companies are operating a mill and yard as a non-conforming use in a business district, in which 47 varieties of business are permitted, but a lumber mill was not allowed. The ordinance provides that non-conforming uses cannot be enlarged in excess of 30% of the cubic content of buildings existing at the date of adoption of the original ordinance in 1921 unless changed to a conforming use.

Wishing to make a greater enlargement of their buildings or convert them to industrial uses, the Companies ask to have these provisions declared void as to them.

This the Court refuses to do. It finds that the unrestricted expansion of plaintiffs' buildings for their present non-conforming uses, or their conversion to general industrial uses, would substantially depreciate residential values throughout the village, as well as business property values in a neighboring business district; would substantially increase fire danger, disagreeable odors, noises, dirt, smoke, and traffic dangers; and would also reverse the present direction of business development, contrary to the best interests of the village.

The power to regulate a non-conforming use includes the power to regulate its extension. The provision that there shall be no increase of the company's non-conforming structure in excess of 30% is reasonable; in fact, the statute justifies a prohibition of any enlargement of such structures.

In conclusion the Court says:

". . . In the present case the real contention of appellant, when analyzed, is not that it is suffering any loss at the present time, but that a restraint is created by the ordinance which may prevent it being used for a more profitable enterprise. This same objection could be made to almost any property in any zoned district. . . .

"There are more than forty other varieties of business for which the property could be used in case it is abandoned for lumberyard purposes. . . .

"We entertain no doubt that the ordinance is within the scope of the zoning statute and does not deprive the plaintiff of any right of property without due process of law."

Delay on Account of Pending Amendment of Zoning Regulations

NEW YORK—*Application of Reade,* Supreme Court, November 9, 1945, reported in 58 N. Y. S., page 390.

This is an application under the Administrative Code of the City of New York to the Commissioner of Licenses for the approval of the site of a motion picture theater in a retail zoning use district where motion pictures are allowed. At the time of the application there was pending before the City Planning Commission a resolution to rezone the area, making it a restricted retail district—prohibiting a motion picture theater.

Under the circumstances the commissioner refused at that time to approve of the site; stating that if the proposed rezoning is not approved by the City Planning Commission, or if so approved, if it is disapproved by the Board of Estimate, he would be "inclined to give renewed consideration" to the application.

The Court holds that the commissioner is required under the law to act on the petition "without delay" and in accordance with the zoning regulations then in effect; "he had no right to deny the application because the City Planning Commisison and the Board of Estimate might thereafter change those zoning regulations.

"The legal situation remains unchanged although on November 7, 1945 the City Planning Commisison did adopt a rezoning resolution along the lines referred to by the commissioner of licenses in his opposing affidavit. The rezoning does not become legally effective until the resolution of the City Planning Commission has been filed with the Board of Estimate and thirty days thereafter have elapsed without adverse action by the Board of Estimate. . . .

"The petitioner is now entitled to favorable action on his application. What legal problems may arise, if and when the rezoning becomes effective, this court is not called upon to anticipate."

The Court in its opinion refers without comment to a passage in the case of *Robitzek Investing Co.* v. *Colonial Beacon Oil Co.,* 265 App. Div. (N. Y.) 749, 755, 40 N. Y. S. 2d 819, 824, as follows:

"Though the premises are now located in a restricted use district, they were in an unrestricted use district at the time original plans for a gasoline service station were filed. Before the effective date of the change rezoning the district into a business district, plaintiff had begun work under the plans as originally filed. The permit thus acquired gave it the right to use the premises as a gasoline station."

Highways—Encroachments

NORTH CAROLINA—*Clayton* v. *Liggett and Myers Tobacco Co.,* Supreme Court, November 7, 1945, reported in 35 S. E. 2d, page 691.

This is an action by the plaintiff, Clayton, and all other interested taxpayers against the defendant tobacco company to restrain defendants from erecting an arcade across an important public street connecting two of its buildings in the City of Durham, N. C.

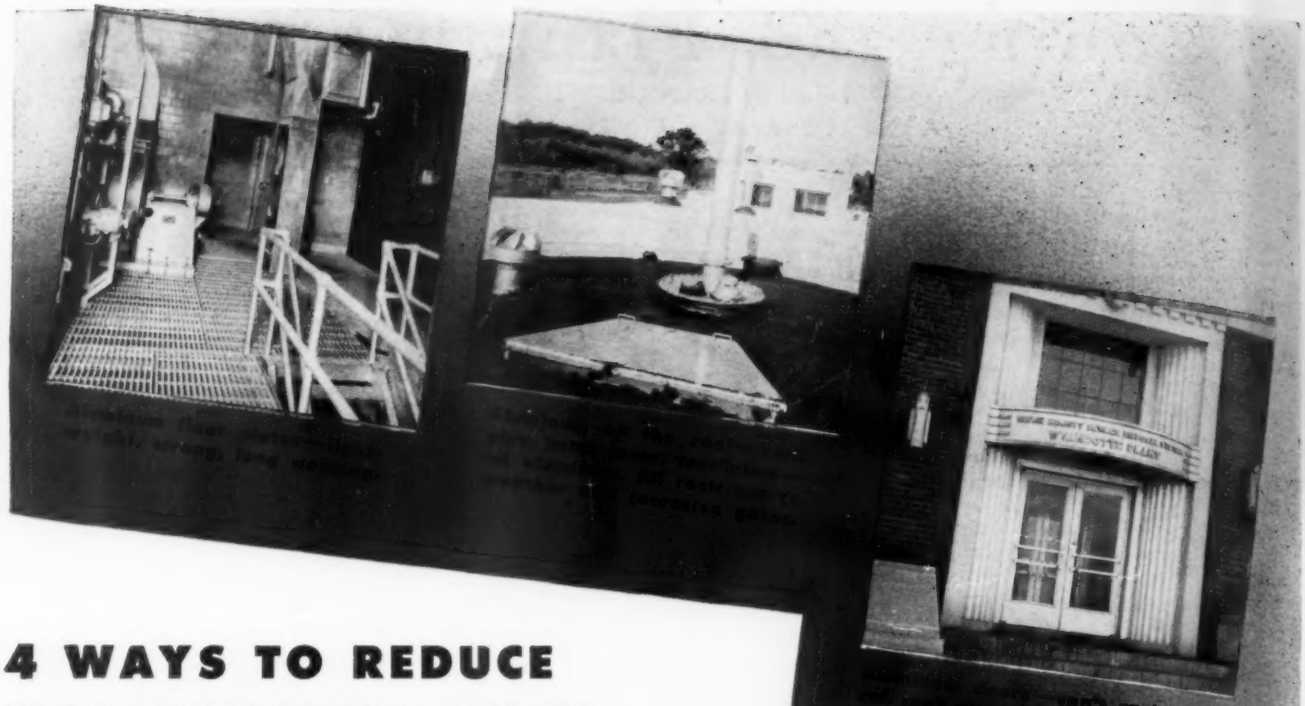
The general assembly of the state has passed an act to allow the city to release any interest that it or the public may have in certain specified land for the purpose of allowing the tobacco company to cross this street for private purposes. The arcade shall have a clearance of 17 ft.

Thereafter the city council of Durham passed a resolution reciting that the director of planning of the city, the city manager, and the city council have investigated the matter, and the council is of opinion that the petition to erect the arcade can be granted without being detrimental to the public interest, safety, or welfare, and it will not impede or congest traffic in the street; whereupon the council grants the request, subject to certain specified terms and conditions for safeguarding the interests of the city and the public for the use of the street; provision being made for widening the street.

Plaintiff claims that the arcade will create a hazard, increase existing congestion, prevent free use of the street and interfere with the planning of the city; and that the general assembly of the state does not have the right to grant or delegate its power to construct the arcade and the resolution to do so is therefore void.

The Court refuses to enjoin the erection of the arcade, on the ground that it will not imperil the right of others to the use of light and air or unreasonably interfere with the public easement of transportation.

Without express constitutional or legislative authority, a municipality may not permit encroachments upon public streets for private purposes; but with this authority it may permit them for such purposes provided the property rights of others are not invaded and the public use of the street is not unreasonably obstructed. Municipal corporations are creatures of the legislature of the state, and possess and can exercise only such powers as are granted in express words, or those necessarily or fairly implied in or incident to the powers expressly conferred, or those essential to the accomplishment of the declared objects and purposes of the corporation. Ordinarily such powers may be enlarged, abridged, or entirely withdrawn by the legislature at its pleasure. Furthermore, the control of streets is primarily a state duty, and the legislative control, in the absence of constitutional restrictions, is paramount, subject to the property rights and easements of the abutting owner. However, the legislature may delegate the power of control over its streets to the municipal corporations of the state or to the governing body in a city, town, or village, or to a particular municipal board, or other agencies. And where such power has been delegated the power of the municipality is measured by the statute or charter provisions delegating such authority.



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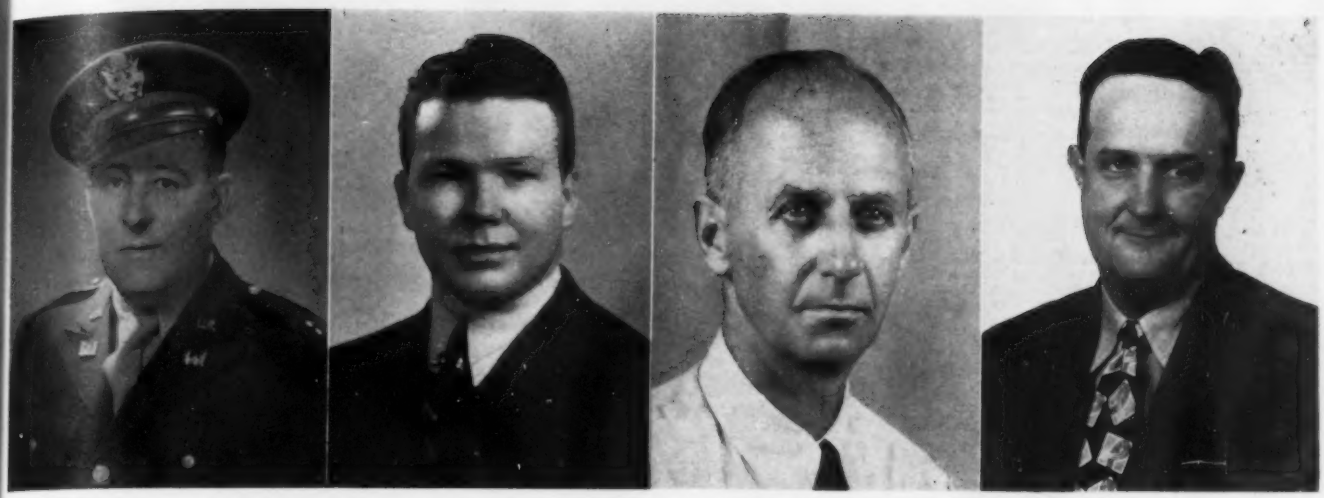


LEFT TO RIGHT: *William J. Heard, city manager of Carey, Ohio; Dale William James, manager of Tooele, Utah; Odd S. Halseth, manager of Phoenix, Ariz., and John R. Hamman, manager of Chickasha, Okla.; Mr. James' appointment was announced in* THE AMERICAN CITY *in May; Mr. Hammon's in June; the other this month.*

City Manager Appointments

O. W. CAMPBELL, who has just returned from overseas military service, and previously a staff member of the Council of State Governments and Public Administration Service, became city manager of San Jose, Calif., on June 10.

HAROLD CHEEK, manager of Big Stone Gap, Va., 1939 to 1943, and recently returned from overseas service in the Navy as a lieutenant, became city manager of Plymouth, Mich., July 1.

I. H. DAVIS has been appointed city manager of Manchester, Ga., replacing W. R. Tucker, deceased.

DONALD DAVIES, city engineer, has been appointed city manager of Salinas, Calif.

ROY F. DUNN, Major, Corps of Engineers, has been appointed town manager of Wytheville, Va.

ULRIC R. GRAY becomes first city manager of Delano, Calif.

FRANK H. GOEBEL on June 3 received the full appointment as city manager of Grand Rapids, Mich.

WILLIAM A. GRIFFITH has been appointed town manager of Manchester, Vt.

COL. JOHN OLIVER HALL, manager of El Reno, Okla., from 1938 to 1941, and more recently in AMG overseas service, has been appointed city manager of Muskogee.

WILBUR E. HARKNESS has been appointed city manager of Leesburg, Fla., replacing A. C. Newman who resigned to enter private business.

WILLIAM HEARD, former post engineer, has been appointed city manager of Carey, Ohio. He replaces Donald F. Herrick, who resigned to become director of the American Public Works Association.

WILLIAM E. JOHNSTON has been appointed city manager of McAlester, Okla.

A. J. KOENIG, city manager of Plymouth, Mich., 1928-31; Fort Atkinson, Wis., 1931-38; Wilmette, Ill., 1938-40; and Jackson, Mich., 1942-46, has been appointed first city manager of Anchorage, Alaska.

ROBERT E. LAYTON, director of research, Zanesville, Ohio, has been appointed town manager of Barre, Vt.

CHARLES H. LEIGHTON, former captain in the U. S. Army, has been appointed city manager of Haines City, Fla.

CHARLES L. LINEBACK, formerly of Kingsport, Tenn., and more recently chief of police at Wilmette, Ill., became first city manager of Nevada, Mo., July 3.

CHARLES D. MANSON, city manager of Manistique, Mich., since 1943, has been appointed city manager of Vassar, Mich.

ROSS MILLER, former staff member of the League of California cities, has been appointed city manager of Santa Rosa, Calif.

C. R. MYERS becomes first city manager of Pelly, Texas.

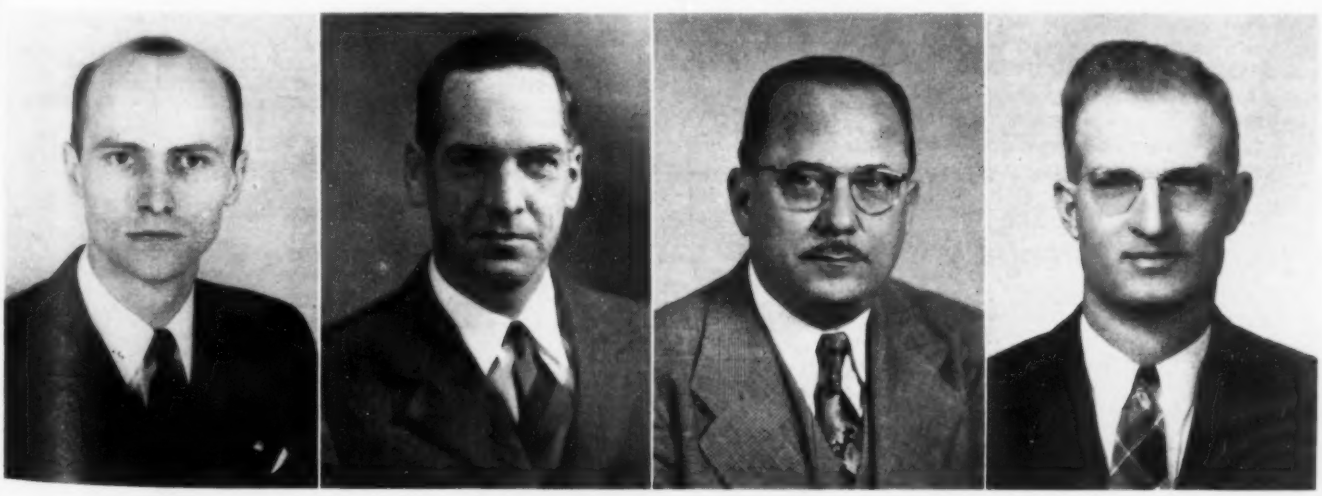
J. E. NEAL is first city manager of Redding, Calif.

L. FRED PEARCE, Supt. of Public Works of Negaunee, Mich., has been appointed city manager of Lapeer, Mich.

RAYMOND SHARP has been appointed city manager of Duncan, Okla.

ODD S. HALSETH has replaced Roy J. Heyne as city manager of Phoenix, Ariz.

(Continued on page 131)



LEFT TO RIGHT: *Charles A. Williams, acting manager of Paducah, Ky.; Seth Jackson, manager of Stonington, Me.; Henry M. Kimpel, manager of Cleveland Heights, Ohio; and W. H. Carper, manager of Harrisonburg, Va. Mr. Jackson's appointment was announced in* THE AMERICAN CITY *in May; the others in June.*

FWD THE *One* TRUCK FOR *Many* JOBS

SPRING · SUMMER · FALL and WINTER

Wherever highway construction and maintenance men operate, the outstanding ability of FWD trucks with under-body blade equipment is well known and valued. On their blading ability alone, FWDs rate as first choice for highway duty . . . but the same truck that does this work so well does scores of other highway jobs equally well, throughout all seasons of the year.

Back of FWD superior performance is the experienced, specialized FWD engineering that provides the highest development of the true four-wheel-drive principle with center differential . . . engineering that equalizes power and load distribution, puts driving power and traction on all wheels, divides working-strains over two driving axles . . . engineering that gives FWDs the power, ruggedness, dependability and economy that makes these all-purpose trucks the first choice of highway authorities.

See your FWD dealer, or write for information on FWD trucks now ready to go to work for you.

There was genuine pride in the voice of driver Bob McBride as he told the FW photographer "I sure do like that truck!" It's the newest and biggest of Logan County, Colorado, Highway Department's fleet. For 15 years Log County has used every one of its FWDs to do many jobs, from grading and wo removal to heavy snow clearing.

THE FOUR WHEEL DRIVE AUTO CO., Clintonville, Wis., U.S.A.

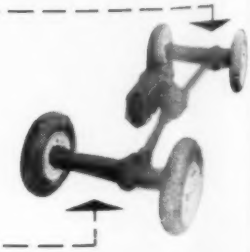
Canadian Factory: KITCHENER, ONTARIO

FWD TRUCKS

THE ORIGINAL EXCLUSIVE BUILDERS OF FOUR WHEEL DRIVE TRUCKS

FOUR-WHEEL-DRIVE

A "plus" that pays in many ways



"MORE POWER ON MORE WHEELS"

Conventions—When and Where

Conventions listed this month for the first time are indicated by an asterick (*)

Aug. 13-15—Cedar Point, Ohio
American Shore and Beach Preservation Assn. Summer Meeting (The Breakers). Sec.-Treas., Peter J. Cannon, 1060 Broad St., Newark, N. J.

Aug. 19-21—Chicago, Ill.
National Institute of Governmental Purchasing, Inc. Annual Conference and Products Exhibit (Hotel Stevens). Exec. Dir., Albert H. Hall, 730 Jackson Pl., NW, Washington, D. C.

***Aug. 20-21—Cedar Rapids, Iowa**
League of Iowa Municipalities. Annual Meeting (Montrou Hotel). Sec.-Treas., Frank G. Pierce, Marshalltown, Iowa.

Aug. 21-22—Missoula, Mont.
Montana Municipal League. Annual Convention (Hotel Florence). Sec., M. J. Mee, 518 Birch St., Anaconda, Mont.

Aug. 26-28—State College, Pa.
Pennsylvania Water Works Operators Association. Annual Meeting (Pennsylvania State College Bldgs.). Sec., I. M. Glace, 22 South 22nd St., Harrisburg, Pa.

Aug. 27-30—Boston, Mass.
National Shade Tree Conference. Annual Meeting (Hotel Statler). Sec.-Treas., L. C. Chadwick, Ohio State University, Columbus, Ohio.

Aug. 28-30—State College, Pa.
Pennsylvania Sewage Works Association. Annual Meeting (Pennsylvania State College Bldgs.). Sec., Bernard S. Bush, c/o Department of Public Health, Kirby Health Center, Wilkes-Barre, Pa.

Aug. 29-31—Cedar City, Utah
Municipal League of Utah. Annual Meeting (Hotel Escalante). Exec. Sec., Mrs. Lyla Ray, 318 McIntyre Bldg., Salt Lake City.

Sept. 2-5—Memphis, Tenn.
Building Officials' Conference of America. Annual Convention. Sec-Treas., Arthur N. Rutherford, Building Inspector, West Hartford, Conn.

Sept. 9-11—Savannah, Ga.
American Water Works Association—Southeastern Section. Annual Meeting (Hotel De Soto). Sec., B. P. Rice, Reconstruction Finance Corp.—Bond Service Div., Healey Bldg., Atlanta, Ga.

Sept. 10-13—Magnolia, Mass.
Governmental Research Association. Annual Conference (Oceanside Hotel). Sec., G. Gordon Tegnell, 30 Rockefeller Plaza, New York 20, N. Y.

***Sept. 12-13—Santa Fe, N. M.**
American Water Works Association—Rocky Mountain Section. Annual Meeting (La Fonda Hotel). Sec., O. J. Ripple, Supt. of Filtration, Littleton, Colo.

Sept. 12-13—Pittsburgh, Pa.
American Water Works Association—Western Pennsylvania Section. Annual Meeting (Hotel Roosevelt). Sec., E. P. Johnson, 418 Flannery Bldg., Section 13, Pittsburgh, Pa.

Sept. 12-14—Asheville, N. C.
North Carolina League of Municipalities. Annual Conference (Hotel George Vanderbilt). Exec. Sec., Mrs. Davetta L. Steed, North Carolina League of Municipalities, 704 Raleigh Bldg., Raleigh, N. C.

Sept. 16-18—Chicago, Ill.
American Transit Association. Annual Meeting (Palmer House). Gen. Sec., Guy C. Hecker, American Transit Association, 292 Madison Ave., New York, N. Y.

Sept. 16-18—Wichita, Kans.
League of Kansas Municipalities. Annual Convention (Broadview Hotel). Exec. Dir., John G. Stutz, Capitol Federal Bldg., Topeka.

Sept. 16-18—Atlanta, Ga.
Georgia Water and Sewage Association. Annual Water and Sewage School (Georgia School of Technology). Sec., V. P. Enloe, RFD 5, Box 363, Atlanta, Ga.

Sept. 16-19—San Diego, Calif.
League of California Cities. Annual Conference (Hotel U. S. Grant). Exec. Sec., Richard Graves, Hotel Senator, Sacramento.

Sept. 16-20—Poland Spring, Me.
New England Water Works Association. Annual Convention (Poland Spring House). Sec., Walter Conroy, 613 Statler Bldg., Boston, Mass.

Sept. 18-20—Traverse City, Mich.
American Water Works Association—Michigan Section. Annual Meeting (Hotel Park Place). Sec.-Treas., Raymond J. Faust, Division of Water Supply, Bureau of Engineering, State Department of Health, Lansing, Mich.

Sept. 18-21—Quebec, Canada
Illuminating Engineering Society. Annual Convention (Hotel Frontenac). Exec. Sec., A. D. Hinckley, 51 Madison Ave., New York.

Sept. 19—Dickinson, N. D.
League of North Dakota Municipalities. Annual Convention. Exec. Sec., Myron H. Atkinson, City Auditor, Bismarck, N. D.

Sept. 20-21—Deadwood, S. D.
South Dakota Water and Sewage Works Conference. Annual Meeting. Dir., W. W. Towne, Division of Sanitary Engineering, State Board of Health, Pierre, S. D.

Sept. 22-24—Virginia Beach, Va.
League of Virginia Municipalities. Annual Meeting (Hotel Cavalier). Sec., Harold I. Baumes, 902 Travelers Bldgs., Richmond, Va.

Sept. 22-25—Fort Worth, Texas
American Public Works Association. Public Works Congress (Hotel Texas). Exec. Dir., Norman Hebden, 1313 E. 60th St., Chicago, Ill.

Sept. 23-27—Mexico City, Mexico
International Association of Chiefs of Police. Annual Conference (Palace of Fine Arts). Exec. Sec., Edward J. Kelly, 918 F St., NW, Washington, D. C.

Sept. 24-26—New Castle, Pa.
Pennsylvania State Association of County Commissioners. Annual Convention (The Castleton Hotel). Sec.-Treas., Herbert S. Bolger, Court House, Hollidaysburg, Pa.

Sept. 24-27—Boston, Mass.
National Association of Assessing Officers. National Conference on Assessment Administration (Hotel Statler). Exec. Dir., Albert W. Noonan, 1313 E. 60th St., Chicago.

Sept. 25-27—Elmira, N. Y.
Municipal Electric Utilities Association of New York State. Annual Conference (Mark Twain Hotel). Sec., T. J. McKee, 200-212 East Third St., Jamestown, N. Y.

Sept. 26-27—Mandan, N. D.
North Dakota Water and Sewage Works Conference. Annual Convention (Hotel Lewis & Clark). Sec.-Treas., K. C. Lauster, c/o State Department of Health, Bismarck, N. D.

Sept. 26-28—Harrisburg, Pa.
Pennsylvania League of Third Class Cities. Annual Convention (Penn Harris Hotel). Pres., Walter Greenwood, 320 Municipal Bldg., Harrisburg, Pa.

Sept. 27-28—Lancaster, Pa.
American Water Works Association—Four States Section. Annual Meeting (Hotel Brunswick). Sec.-Treas., H. Lloyd Nelson, 1624 Lincoln-Liberty Bldg., Philadelphia.

Sept. 30-Oct. 2—Springfield, Ill.
Illinois Municipal League. Annual Convention (Hotel Leland). Exec. Sec., A. L. Sargent, Illinois Municipal League, 537 So. 4th St., Springfield, Ill.

Oct. 2-3—Mammoth Cave, Ky.
Kentucky Municipal League. Annual Convention (Mammoth Cave Hotel). Exec. Sec., Carl B. Wachs, c/o Univ. of Kentucky, Lexington, Ky.

Oct. 2-3—Milwaukee, Wis.
Wisconsin Chiefs of Police Association. Annual Conference (Hotel Schroeder). Sec., Walter H. Wagner, Sheboygan, Wis.

Oct. 3-4—Albany, N. Y.
American Water Works Association—New York Section. Fall Meeting (Hotel DeWitt Clinton). Sec.-Treas., R. K. Blanchard, 50 W. 50th St., New York, N. Y.

Oct. 3-5—Columbus, Ohio
Institute of Traffic Engineers. Annual Meeting (Hotel Deshler-Wallick). Sec.-Treas., Wilbut S. Smith, Strathcona Hall, New Haven.

Oct. 7-9—Toronto, Ontario
Canadian Institute of Sewage and Sanitation. Annual Meeting (Hotel Royal York). Sec.-Treas., Dr. A. E. Berry, Canadian Institute of Sewage and Sanitation, Parliament Bldg., Toronto, Ont.

Oct. 7-9—Toronto, Ont.
Federation of Sewage Works Association. Annual Meeting (Hotel Royal York). Sec., W. H. Wisely, 325-26 Illinois Bldg., Champaign, Ill.

Oct. 7-11—Chicago, Ill.
National Safety Council. Congress and Exposition (Hotel Stevens). Pres., Ned H. Dearborn, 20 North Wacker Drive, Chicago.

Oct. 7-12—Hastings, Sussex, England
International Federation for Housing and Town Planning. International Congress and Exhibition. Congress Officer, 13 Suffolk St., London, S.W.I.

Oct. 10-12—Cleveland, Ohio
National Association of Housing Officials. Annual Meeting (Hotel Carter). National Association of Housing Officials, 1313 E. 60th St., Chicago, Ill.

Oct. 10-12—Columbus, Ohio
American Water Works Association—Ohio Section. Annual Conference (Hotel Fort Hayes). Sec.-Treas., F. P. Fischer, Wallace & Tiernan, 811 Perry Payne Bldg., Cleveland.

***Oct. 10-12—Detroit, Mich.**
Michigan Municipal League. Annual Meeting (Hotel Fort Shelby). Dir., John H. Huss, 205 South State St., Ann Arbor.

Oct. 14-17—Galveston, Texas
American Water Works Association—Southwest Section. Annual Meeting (Robinson Memorial Auditorium). Sec., L. A. Jackson, Mgr., Water Works, Little Rock, Ark.

Oct. 16-18—Omaha, Nebr.
League of Nebraska Municipalities. Annual Convention (Hotel Rome). Sec.-Treas., C. E. Beals, 408 Continental Bank Bldg., Lincoln, Nebr.

Oct. 16-18—Atlantic City, N. J.
Pennsylvania Water Works Association. Annual Convention (Hotel Traymore). Sec.-Treas., E. R. Hannum, 510 Telegraph Bldg., Harrisburg, Pa.

Oct. 17-18—Fond du Lac, Wis.
League of Wisconsin Municipalities. Annual Convention (Hotel Retlaw). Sec., Frederick MacMillin, Madison, Wis.

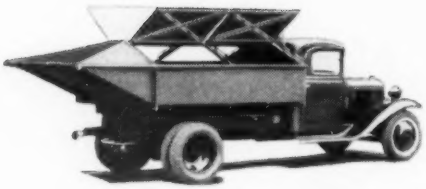
Oct. 17-18—Morgantown, West Va.
American Water Works Association—West Virginia Section. Annual Convention (Hotel Morgan). Sec., J. B. Harrington, State Department of Health, Charleston, W. Va.

(Concluded on page 135)

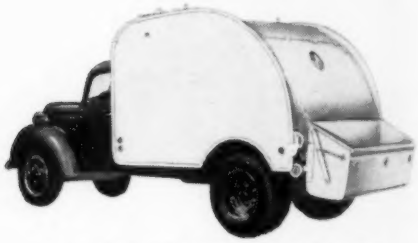
The BEST COSTS LESS

For years Gar Wood has consistently offered truck and trailer equipment of utmost utility and outstanding value. Leadership in this field resulted from this policy. Gar Wood equipment costs less in the long run because it is better built to give peak performance and lasting satisfaction.

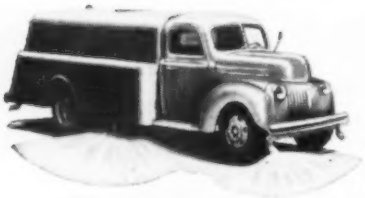
The Load Packer (patented) all enclosed garbage and refuse unit. Compresses loads hydraulically for maximum payloads.



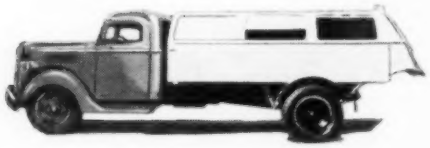
Type C28 scow end Garbage Body. Steel hinged covers extra equipment.



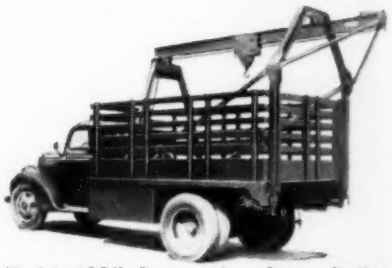
The new Bucket Loader, an all enclosed sanitary refuse disposal unit.



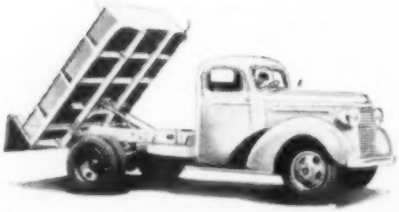
Street Flushers and Sprinklers.



Type C50 Garbage Body with sliding steel covers on each side.

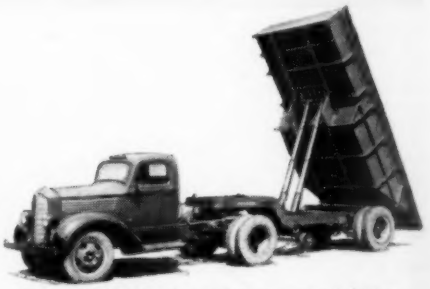


Model "QD" Tree-moving Crane. Easily erected or removed from all purpose stake body.



Type C12 Body and Model D6 or D7 Hoist. Dumping angle 55°.

Telescopic boom Crane. Boom radius 8 to 20 feet.



Special W28 Garbage Body, watertight top box. Capacity 7 cu. yds. Type T333 telescopic Hoist.

GW TRADE MARK

GAR WOOD INDUSTRIES, INC.

7924 RIOPELLE ST. • DETROIT 11, MICH.

WORLD'S LARGEST MANUFACTURERS OF TRUCK AND TRAILER EQUIPMENT

OTHER PRODUCTS: • TRUCK TANKS • ROAD MACHINERY • HEATING EQUIPMENT • MOTOR BOATS

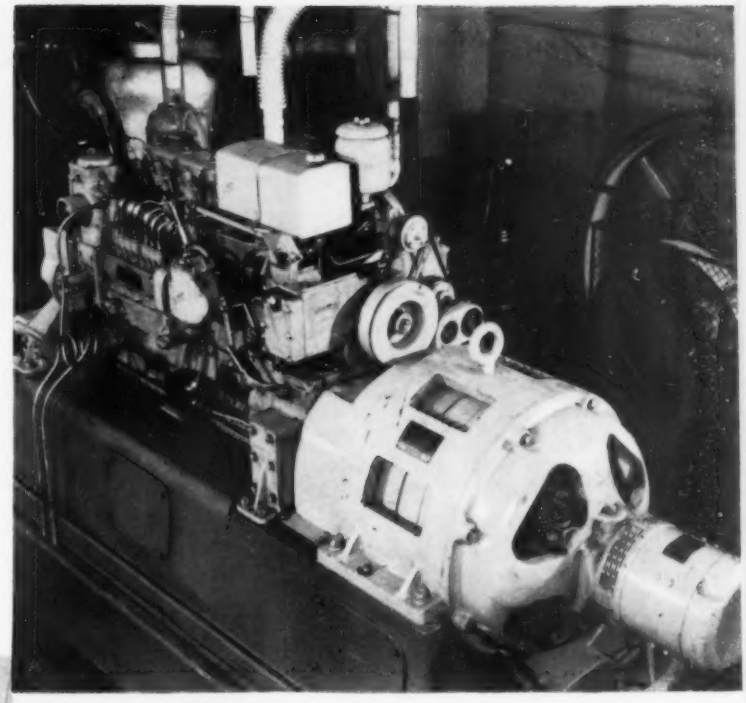
DOUBLE-DUTY POWER-PLANT

IT WAS a good investment for Springview, Nebraska, when the Springview Flour & Grain Co. installed a "Caterpillar" Diesel D4600 Engine. Powering a Westinghouse 37.5 KVA generator, the engine has worked a double shift for more than five years.

In the daytime it produces current to operate the 60-barrel mill. Nights, from 11 P.M. to 6 A.M., it supplies all electricity for the town, including power for water pumping and light for the movie theater and all store buildings.

This hard-working "Caterpillar" Diesel has now operated well over 23,000 hours and has never had a fuel pump or injection valve failure. The engine was given an overhaul after 10,800 hours, but the original fuel system is still going strong. There's only one word for such a power-plant — *dependable.*

CATERPILLAR TRACTOR CO. • PEORIA, ILLINOIS



Power for this 60-bbl. mill and for municipal lighting is supplied by the "Caterpillar" Diesel Engine shown above.

• • •

"Our town has never been in the dark overnight since we've had the engine," says Mr. Jas. H. Mock, owner, Springview Flour & Grain Co.

CATERPILLAR DIESEL

REG. U.S. PAT. OFF.

ENGINES • TRACTORS • MOTOR GRADERS • EARTHMOVING EQUIPMENT

the gang's all here... so's Mack!

THE volunteer fire department of **Carle Place, Long Island,** turned out for an inspection the day its new Mack arrived. The modern Type 45 Pumper puts Carle Place on the list of more than a thousand American cities now protected by Mack Fire Apparatus.

The Mack Type 45 is especially desirable for fire departments working on limited budgets. It's a Mack development that brings progressive fire engineering advances within reach of all communities.

A powerful six-cylinder engine assures ample reserve for tough road conditions and the strain of continuous pumping. Exclusive Mack rubber Shock Insulators suspend the high-rigidity frame. The pump is two-stage, pressure volume, centrifugal type. Rotary pump optional.

Why not give *your* town the added measure of protection you get with a Mack? Call your Mack man.

Mack Manufacturing Corporation
Fire Engine Department, Empire State Building
New York 1, New York

Mack
FIRE APPARATUS

Performance Counts!

If your community needs additional fire-fighting equipment or replacements, think of Mack. Remember, Mack Fire Apparatus is backed by the greatest engineering resources in the industry.

Conventions—When and Where

(*Continued from page* 131)

Oct. 17-19—**Rockford, Ill.**
ILLINOIS ASSOCIATION OF PARK DISTRICTS. Annual Convention (Hotel Faust). Exec. Dir., Miss Marjorie Dickinson, 205 E. Adams St., Springfield, Ill.

*Oct. 21-22—**Columbia, Mo.**
MISSOURI WATER AND SEWERAGE CONFERENCE. Annual Meeting (Daniel Boone Hotel). Sec.-Treas., W. A. Kramer, State Board of Health, Jefferson City.

Oct. 21-24—**New York City**
CIVIL SERVICE ASSEMBLY OF THE UNITED STATES AND CANADA. Annual Conference on Public Personnel Administration (Hotel New Yorker). Acting Dir., J. J. Donovan, 1313 E. 60th St., Chicago, Ill.

Oct. 23-25—**San Francisco, Calif.**
AMERICAN WATER WORKS ASSOCIATION—CALIFORNIA SECTION. Annual Conference (Hotel Whitcomb). Sec., Ray L. Derby, Box 3669—Terminal Annex, Los Angeles, Calif.

Oct. 27-30—**Miami, Fla.**
NATIONAL ASSOCIATION OF COMMERCIAL ORGANIZATION SECRETARIES. Annual Meeting (Hotels McAllister, Columbus, Colonial, Everglades, and Alcazar). Exec. Sec.-Treas., Miss Elizabeth Glenn, 1616 H St., NW, Washington.

Oct. 28-30—**Pittsburgh, Pa.**
ENGINEERS' SOCIETY OF WESTERN PENNSYLVANIA. Annual Water Conference (Hotel William Penn). Conference Chairman H. M. Olson, Hotel William Penn, Pittsburgh, Pa.

Nov. 7-8—**Augusta, Me.**
MAINE MUNICIPAL ASSOCIATION. Annual Convention. Sec., Mrs. Ethel Kelley, 97 Maine St., Hallowell, Me.

Nov. 7-9—**Atlantic City, N. J.**
AMERICAN WATER WORKS ASSOCIATION—NEW JERSEY SECTION. Annual Meeting (Hotel Chelsea). Sec., C. B. Tygert, Box 178, Newark.

Nov. 7-9—**Omaha, Nebr.**
AMERICAN WATER WORKS ASSOCIATION—MISSOURI VALLEY SECTION. Sec.-Treas., M. P. Hatcher, Dir., Water Department, City Hall, Kansas City, Mo.

Nov. 11-13—**Raleigh, N. C.**
AMERICAN WATER WORKS ASSOCIATION—NORTH CAROLINA SECTION. Annual Convention (Hotel Sir Walter Raleigh). Sec.-Treas., George S. Moore, American Water Works Association—North Carolina Section. Box 125, Albemarle, N. C.

Nov. 11-13—**Raleigh, N. C.**
NORTH CAROLINA SEWAGE WORKS ASSOCIATION. Joint Meeting with the foregoing.

Nov. 11-13—**Philadelphia, Pa.**
NATIONAL MUNICIPAL LEAGUE. National Conference on Government (Hotel Bellevue-Stratford). Exec. Dir., Alfred Willoughby, National Municipal League, 299 Broadway, New York, N. Y.

*Nov. 11-13—**Philadelphia, Pa.**
NATIONAL ASSOCIATION OF CIVIC SECRETARIES. Annual Meeting to coincide with National Municipal League Conference on Government (Hotel Bellevue-Stratford). Sec., Miss H. Marie Dermitt, 5724 Darlington Rd., Pittsburgh, Pa.

Nov. 11-14—**Miami, Fla.**
INTERNATIONAL MUNICIPAL SIGNAL ASSOCIATION. Annual Convention. Sec., Irvin Shulsinger, International Municipal Signal Association, Inc., 8 East 41st St., New York, N. Y.

Nov. 11-15—**Cleveland, Ohio**
AMERICAN PUBLIC HEALTH ASSOCIATION. Annual Meeting (Public Auditorium). Exec. Sec., Dr. Reginald W. Atwater, 1790 Broadway, New York, N. Y.

*Nov. 11-16—**Atlantic City, N. J.**
NATIONAL ASSOCIATION OF REAL ESTATE BOARDS. Annual Convention. Dir. Public Relations, Charles T. Stewart, 1737 K St., NW, Washington.

Nov. 14-15—**Richmond, Va.**
AMERICAN WATER WORKS ASSOCIATION—VIRGINIA SECTION. Annual Convention (John Marshall Hotel). Sec., W. H. Shewbridge, State Dept. of Health, Richmond 22, Va.

Nov. 17-20—**St. Louis, Mo.**
AMERICAN INSTITUTE OF PARK EXECUTIVES. Annual Meeting (Hotel Jefferson). Exec. Sec., Dave Hovey, P. O. Box 422, Rockford, Ill.

Nov. 17-20—**Chicago, Ill.**
AMERICAN MUNICIPAL ASSOCIATION. Annual Conference (Hotel Congress). Exec. Dir., Earl D. Mallery, 1313 E. 60th St., Chicago, Ill.

Nov 20-22—**New York, N. Y.**
NEW JERSEY STATE LEAGUE OF MUNICIPALITIES. Annual Conference (Hotel New Yorker). Exec. Sec., James J. Smith, 808 Trenton Trust Bldg., Trenton, N. J.

Nov. 21-23—**Miami Beach, Fla.**
FLORIDA LEAGUE OF MUNICIPALITIES Annual Meeting (Hotel Roney-Plaza). Sec.-Treas., E. P. Owen, Jr., 1707 Barnett National Bank Bldg., Jacksonville, Fla.

Dec. 2-4—**Washington, D. C.**
NATIONAL INSTITUTE OF MUNICIPAL LAW OFFICERS. Annual Meeting. Exec. Dir., Charles S. Rhyne, 730 Jackson Pl., NW, Washington, D. C.

Dec. 2-4—**Harlingen, Texas**
LEAGUE OF TEXAS MUNICIPALITIES. Annual Convention (Hotel Reese-Wil-Mond). Exec. Dir., E. E. McAdams, League of Texas Municipalities, 220 Guadalupe St., Austin, Texas.

*Dec. 2-6—**New York, N. Y.**
AMERICAN SOCIETY OF MECHANICAL ENGINEERS. Annual Meeting (Hotel Pennsylvania). Exec. Asst. Sec., Ernest Hartford, 29 W. 39th St., New York.

*Dec. 5-8—**Baltimore, Md.**
NATIONAL COUNCILS OF STATE & LOCAL PUBLIC WELFARE ADMINISTRATION (SECTION AMERICAN PUBLIC WELFARE ASSOCIATION). Annual Round Table Meeting and meeting of National Councils of State and Local Welfare Administrators (Lord Baltimore Hotel). Sec., Howard L. Russell, 1313 E. 60th St., Chicago, Ill.

*Dec. 6-7—**New York, N. Y.**
TAX INSTITUTE. Annual Conference. Exec. Sec., Miss Mabel Walker, Tax Institute, 150 Nassau St., New York, N. Y.

*Dec. 17-20—**Los Angeles, Calif.**
AMERICAN ASSOCIATIONS OF STATE HIGHWAY OFFICIALS. Annual Meeting (Biltmore Hotel). Exec. Sec., Hal H. Hale, 1220 National Press Bldg., Washington, D. C.

City Manager Appointments

(*Continued from page* 129)

HORACE B. GULDEN was appointed borough manager of Carlisle, Pa., to take office Sept. 1. He replaces Henry D. Harral, who left to take a position on the staff of the Institute of Local and State Government of the University of Pennsylvania.

EDWARD M. BEARDSLEE, manager of Deland, 1942 to 1945, Fernandina since Oct. 1945, has been appointed city manager of Jacksonville, Fla., to fill the vacancy created by the death of James Q. Palmer.

WILLIAM L. SCHUPP, manager of Raymondville, Texas., since 1945, has been appointed city manager of McAllen, Texas.

GLENN J. HART, former member of the Ypsilanti, Mich., engineering department, has been appointed first city manager of Saline, Mich.

ADRIAN NEWCOMER has been appointed city manager of Covington, Va.

J. D. RHYNE, tax collector since 1939, has been appointed city manager of Hickory, N. C., to succeed R. E. Smyre who resigned to enter private business.

ARNOT ARCHIBALD has replaced Ronald G. Lothrop as manager of Monticello, Me.

CAPTAIN HARRY A. SCHMITT, who has been on military leave since May 1943, returned to his post as manager of Shorewood, Wis., on July 1, replacing Erhard G. Teschan.

T. E. THOMPSON, city manager of Grand Junction, Colo., 1926-30, and Shawnee, Okla., from 1930 to 1946, has been appointed city manager of Norman, Okla., replacing R. M. McCool who resigned, effective July 10.

BARTLEY W. CAVANAUGH, Director of the City and County Housing Authority, was appointed city manager of Sacramento, Calif., following the death of former manager Elton Sherwin.

CLARENCE E. RIDLEY
Executive Director
International City Managers' Association
Chicago, Ill.

City Managers' Association Elects Officers

CITY MANAGER V. R. Smitham of Dallas, Texas, was elected president of the International City Managers' Association at its annual conference held in Montreal, Quebec, on June 16-21.

The meeting, which had the greatest attendance in the history of the organization, was also considered the best from the standpoint of program and entertainment. Don C. McMillan, Alameda, Calif.; George J. Roark, Pensacola, Fla.; and Rodney L. Loomis, West Hartford, Conn.; were elected vice-presidents.

Seven managers received 25-year service awards. They are: John C. Hiteshew, Sewickley, Pa.; Henry A. Sherman, Sault Ste. Marie, Mich.; J. Henri Valiquette, Trois Rivieres, Quebec; F. O. Eichelberger, Dayton, Ohio; A. K. Grimmer, Temiskaming, Quebec; L. Trevette Lockwood, Palm Beach, Fla.; and C. M. Osborn, Kenilworth, Ill.

The attendance cup was won by the state of Michigan, which had 25 managers at the conference. It was previously held by Texas.

Half-Time Graduate Assistantship in Landscape Architecture

THE State Board of Agriculture governing Michigan State College has approved one half-time graduate assistantship in the department of landscape architecture for the academic year 1946-1947. This assistantship is at the rate of $800 for candidates for the Master's degree and $1,000 for those who have the Master's degree (M.S. or M.A.) or its credit equivalent and who are candidates for the Doctor of Philosophy or Doctor of Education.

Appointment is to be based particularly upon the candidate's scholastic record and his promise as a graduate student.

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The Municipal Bond Market

Some sales of new issues as reported in recent issues of *The Bond Buyer*:

Amount	Borrower and Purpose	Rate (%)	Term (Years)	Basis (%)
$135,000	York, Pa., Improvement	.75	2-10 Ser.	.679
200,000	McKeesport, Pa., General Obligation	.875	2-11 Ser.	.797
158,000	Larchmont, N. Y., General Improvement	.90	2.66 Avg.	.865
400,000	Newton, Mass., Street Improvement	1.0	1-10 Ser.	.83
100,000	Grove City, Pa., Improvement	1.0	1-10 Ser.	.904
150,000	Columbus, Mo., Sewage System	1.0	4-13 Ser.	.958
489,000	Niagara Falls, N. Y., Sewer of 1946	1.0	8.33 Avg.	.943
5,000,000	New York City Housing Authority, Emergency Housing, Issue 2	1.0	2-6 Ser.	.945
1,275,000	Springfield, Mo., Sch. Dist.	1.0	7.5 Avg.	.933
125,000	Franklin, Va., Public Building	1.20	14 Avg.	1.168
135,000	Leonia, N. J., Sch. Dist.	1.20	11.83 Avg.	1.185
250,000	Danville, Va., General Improvement of 1946	1.20	1-25 Ser.	1.189
250,000	Fall River, Mass., Public Improvement	1.25	1-10 Ser.	1.08
1,225,000	Springfield, Ohio, City School Dist.	1.25	12.33 Avg.	1.235

$10,500,000 Bond Issue Brings $15,600,000

THE Sacramento Utility District, in floating a $10,500,000 loan last month, stipulated that the district must receive at least $15,600,000 for the issue. This condition was met by the Bank of America syndicate by bidding 149.76 for the bonds, the interest rate to be 5%. The syndicate, in turn, reoffered the bonds to yield up to 2.15% for the longest maturity.

In commenting on this transaction, *The Bond Buyer* for July 13 said:

"This issue attracted unusual attention because, coming at this time, it was felt that many municipalities might see in it an easy, but expensive way to raise amounts in excess of authorized issues to cover increased constructions. For example the *New York Times* comments: 'If the issue survives a legal test, it is to be expected that other local government agencies may make use of the expedient, when they find their spending style cramped by obsolete or otherwise insufficient bond authorizations.'

"The device used by the Sacramento district to raise, through sale of high coupon bonds at a 50 point premium, an amount of money half again as large as the authorized bond issue, has called attention to a unique provision in the bond laws of New Jersey.

"When that State's local finance laws were completely overhauled back in 1916 by Senator A. N. Pierson (now Treasurer of Union County), a provision written into the law made it impossible for a municipality to realize a premium of more than $1,000 on any one bond issue, regardless of the size of the issue. The device employed is quite simple. Suppose a municipality is offering for sale a $100,000 bond issue. The bidders name the coupon rate and specify the least number of bonds they will take, paying the municipality not less than $100,000 nor more than $101,000. Assume the bonds were worth 103. Instead of paying $103,000, of which $3,000 would represent premium, the the bidder would offer to pay $101,000 and take only $98,000 bonds. The amount of bonds issued would be reduced by cancelling two bonds of the longest maturity or maturities. In effect, this means that the premium is automatically applied to debt reduction just as though it were placed in a sinking fund; then used to buy in the municipality's own bonds and immediately cancel the bonds thus bought and eliminate any further tax to pay principal or interest thereon.

"Senator Pierson's idea was not overpopular at first, but soon became recognized as sound and practical. We have never heard any suggestion since it was enacted 30 years ago that it be altered or abandoned. But, curiously enough, no other state has yet copied it into its bond laws.

Bathing Suit Regulations of 1917

HERE ARE THE rules for safeguarding public morals and decency on municipal bathing beaches promulgated in 1917 with due solemnity by the American Association of Park Superintendents, as reported in THE AMERICAN CITY for May of that year.

General

No all-white or flesh-colored suits, permitted, or suits that expose the chest lower than a line drawn on a level with the arm pits.

Ladies

Blouse and bloomer suits may be worn, with or without stockings, provided the blouse has quarter arm sleeves or close-fitting arm-holes, and provided bloomers are full and not shorter than four inches above the knee. Jersey knit suits may be worn, with or without stockings, provided the suit has a skirt or skirt effect, with quarter-arm sleeves or close-fitting armholes and trunks not shorter than four inches above the knee, and the bottom of skirt must not be shorter than two inches above the bottom of trunks.

Men

Men's suits must have skirt or skirt effect, or shirt worn outside of trunks, except when flannel knee pants with belt and fly front are used. Trunks must not be shorter than four inches above the knee, and the skirt or shirt must not be shorter than two inches above the bottom of the trunks.

Methods of Regulating Subdivision Growth

CONTROLLED GROWTH of subdivisions to protect homebuilders from haphazard realty development and insure orderly urban expansion is reported in an increasing number of cities by the International City Managers' Association.

Of 34 cities included in a recent Association survey, 30 have adopted subdivision regulations. A few cities have relaxed subdivision control to facilitate temporary housing construction.

Five cities surveyed require developers to install streets, water mains, sanitary sewers, sidewalks, curbs and gutters; to provide water supply and to dedicate land for recreational purposes. These cities are Louisville and Lexington, Ky.; Cincinnati, O.; Dallas, Tex.; and Wichita, Kan. Only Wichita, however, has authority to compel all these improvements in subdivisions outside the city boundary.

Twenty cities surveyed require subdividers to install some of these improvements before plats—official maps of subdivisions—are approved by the city. Five other cities require approval of all plats by the city council or plan commission but do not specify any particular improvements be made before development is promoted.

Subdivision developers are required to grade and surface streets and install sanitary sewers in 23 of the cities surveyed and other cities are considering such provisions. Water mains must be installed by the developer in 13 of the 34 cities, while in 5 municipalities the city provides water facilities. Thirteen cities require the developer to provide water supply for fire protection; in 3 cities the municipality assumes this responsibility.

Alterations in subdivision rules to facilitate temporary housing construction during the housing emergency have been made or are under consideration in Miami, Fla.; Ames, Ia.; Flint, Mich., Schenectady, N. Y.; and Cincinnati, Dayton, and Painesville, Ohio. Schenectady, for example, is not enforcing street and lot width requirements nor building and zoning regulations against some kinds of temporary housing.

Control of subdivision development from 1 to 3 miles beyond the city limits is exercised by 18 of the 34 municipalities surveyed. Saginaw, Mich., for example, may supervise land patterns within 2 miles of its corporate limits. Kansas City, Mo., on the other hand, shares control of its 1½-mile zone beyond city limits with the county. Louisville and Cincinnati are striving for uniform subdivision regulation for both city and county.

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Municipal and Civic Publications

Source Book on Social Security and Relief

RELIEF AND SOCIAL SECURITY. *By Lewis Meriam. The Brookings Institution, Washington, D. C.*, 1946. *XX, + 912 pp.* $5.00.

This volume is likely to remain the major source book on the administration, economics, and incidence of relief and social security in the United States. It is, in the best sense of the word, a definitive study of the operation of our social security system. That system has, over the last decade, integrated the activities of our local, state, and national governments in this important field. It is highly useful, therefore, to have available an objective review and appraisal of the functions and sources which have been coordinated into an effective attack on the problem of relief.

Relief, as such, has traditionally been a primary function of local government. Under our social security system, part of the activities in and a substantial part of the costs of relief have been shifted upward to the state or national governments. This development has not, however, materially altered the integral place of local government in administering the more important social sources for the needy citizen. The author stresses the point in many of his discussions and indicates the importance of immediate local supervision of face-to-face relations with relief recipients (see especially Ch. XXXIII).

Municipal officials directly concerned with relief and social security will find this volume a "must" reference source on the evolution and administration of the present system. Others at City Hall will discover many useful suggestions on personnel organization and related problems of government—no less important to efficient administration at the local than at the state or national levels.

PHILLIPS BRADLEY,
Cornell University.

Report on Alcoholism

ALCOHOLISM IS A SICKNESS.—*By Herbert Yahraes. Public Affairs Pamphlet No. 118. Public Affairs Committee, Inc., 30 Rockefeller Plaza, New York, N. Y. Illus. 32 pp.* 10c.

A careful study of the disease of alcoholism and measures that can be taken to cure alcoholics. The author stresses the fact that doctors today look upon alcoholism as a disease with definite symptoms and treatment rather than a weakness or "bad habit." Mr. Yahraes argues that most doctors agree that many alcoholics can be rehabilitated, as special psychotherapy clinics have proven, but most alcoholics do not have the opportunity to receive such treatment. In discussing preventative measures, the author points out that there is no specific remedy for alcoholism but that the cooperation and understanding of the patient's family and associates is vital. Information and education centers are being set up throughout the country by local committees of the National Committee for Education on Alcoholism in an effort to interest civic leaders in a plan of community action which would provide for clinics and guidance for alcoholics.

Notes on State Taxpayers Organizations

SOME NOTES OF THE ANNUAL CONFERENCE OF STATE TAXPAYERS ORGANIZATIONS.—*Nov. 14-16, 1946. Citizens National Committee, Inc. 2633 16 St. NW, Washington 9, D. C. 74 pp.*

Reports and discussion of the State Taxpayer Organizations' conference in Washington last fall. The conference was attended by officers of the various taxpayer organizations, business leaders, and government officials and was devoted to a discussion of the problems to be faced in this crucial first year after the war. Among the subjects dealt with were legislative reorganization, full employment legislation, social security, federal housing, and taxation.

Annual Municipal Yearbook

THE MUNICIPAL YEAR BOOK, 1946.—*Clarence E. Ridley and Orin F. Nolting, Editors, International City Managers' Association. 1313 East 60 St., Chicago, Ill. June 1946. 593 pp. $8.50 postpaid.*

Urban redevelopment, municipal airports, and off-street parking lots are some of the new topics covered this year in this authoritative resumé of activities and statistical data of American cities. In the city planning section, with its regular features brought up to date, are reported the financial and administrative tools available to private and public urban redevelopment agencies. Data on airports in cities over 25,000 and terminal airports in cities from 5,000 to 25,000 population are presented—ownership and operation, longest take-off length, number of commercial hangars, and other characteristics. Cities operating off-street parking lots and their capital cost, parking fees, limits on parking time allowed, and capacity, are also listed.

The personnel data are greatly expanded in this new edition of "The Municipal Year Book," reporting veterans' preference allowed in cities, Saturday work schedules for office employes, vacation and sick leaves, and extent to which unskilled laborers are on annual wages. There is also the regular information on number of employes, amount of payrolls, work hours per week, methods of overtime pay, retirement systems and employes groups covered, employe organizations, and civic service.

Every city over 10,000 population is classified according to its chief type of employment, principal industrial or commercial activity, and the relationship between the number of people working in the city and the number living there. Another regular feature—the section on governmental data—now reflects the latest changes in city population, form of government, number of councilmen, terms of office and salary, types of election, and utilities owned.

The section on model ordinances and references to information on service standards provides a rich source of easily tapped information. Also useful are sections containing data on cities levying sewer rentals, refuse collection charges, important court decisions of 1945, and the directories, containing over 8,000 names of the chief city officials in cities over 10,000.

Citizens and Their Government

ORGANIZED CITIZEN CONCERN WITH GOVERNMENT.—*By Lent D. Upson. Special Pamphlet Series No. 2. Governmental Research Association, 30 Rockefeller Plaza, New York 20, N. Y. 1946. 31 pp.* 25c.

An address before the Annual Conference of the Governmental Research Association at Detroit in December 1945. The study presents some of the problems involved in governmental research by organized citizen groups. The creation of an informed, responsible citizenry; the proper activities of such citizen organizations: the techniques of fact-finding, publicity, and general organization and operation are all presented.

Structure of Municipal Government

FORMS OF CITY GOVERNMENT — *Municipal Studies No. 26. The Bureau of Municipal Research, University of Texas, Austin, Texas. 1945. 34 pp.* 50c.

Pamphlet presenting a comparative discussion of the major forms of city government in use in this country, giving special attention to the forms used by Texas cities. The forms discussed are the mayor-council, commission, and council-manager governments, and the analyses are accompanied by charts illustrating the relationship of the various departments in each case. In presenting the study, the bureau points out that no one form will assure good government since it is, at best, a piece of machinery. The citizen is the operator of the governmental machinery and must judge which machine will be most satisfactory.

Study of Utopias

NOWHERE WAS SOMEWHERE: HOW HISTORY MAKES UTOPIAS AND HOW UTOPIAS MAKE HISTORY.—*By Arthur E. Morgan. University of North Carolina Press, Chapel Hill, N. C. 1946. Index. 234 pp. $2.50.*

This challenging book gets its title from the author's belief that the great "Utopia" of Sir Thomas More was not a mere product of the imagination, but a generally representative account of an actual country and its social system—the Inca state of Peru.

"Many utopian schemes," says Dr. Morgan, can be traced back into the distant past until they blend with the utopian visions of the Hebrew prophets or into legends of the Golden Age."

In addition to presenting the results of careful historical research, the former president of Antioch College and chairman from 1933 to 1938 of TVA discusses "The Characteristics and Use of Utopias" and "Why Utopias Fail."

In "Nowhere Was Somewhere" Dr. Morgan uses the word "utopia" in its specific sense, but also with broader application, to include plans of government or schemes for social improvement which present the possibilities of a good society. The book has much of interest and value for all workers for finer cities and a richer community life.

How to Pay for Planning

FINANCING COMMUNITY PLANNING.—*By John D. Morrison, Michigan Planning Commission, Lansing, Mich. 1946. Mimeo. 6 pp.*

Useful outline of factors to be considered in problem of financing community planning, set forth in an address delivered before the Local Planning Institute at Escanaba, Mich. in June. Mr. Morrison presents the material in three parts: establishment of the planning commission, financing the operation of planning, and the costs of carrying out the planned program. Various sources of assistance are cited and specific methods of obtaining the needed funds are outlined.

Principles of Civic Center Planning

GOVERNMENT CENTER PLAN.—*First Report on Civic Center Studies prepared by the City Plan Board, 530 Municipal Bldg., Dayton, Ohio. 1946. Mimeo. Illus. 27 pp.*

Report dealing with the problem of site selection of government buildings in relation to the city as a whole. The findings and recommendations of the Plan Board include not only a consideration of plans for other cities and previous plans for Dayton, but also an analysis of the civic center concept. The report is divided into two parts: the first containing a general discussion of civic centers, and the second containing specific suggestions for Dayton. Pictures and charts are used to illustrate the text.

Housing Reports

HOUSING—*Vol. I, No. 1. June 1946. Prepared by the staffs of the Housing Expediter and National Housing Agency, Washington, D. C. 22 pp.*

First of a series of monthly reports on the progress of the Veterans' Emergency Housing Program. This booklet summarizes the progress made in emergency housing during the first 5 months of this year. The study reports the part that private enterprise, labor, and government have played in the effort to speed production and outlines steps that must be taken before the goal of 2,700,000 homes and apartments can be reached.

SUMMARY OF THE 1945 HOUSING YEAR.—*National Association of Housing Officials, 1313 East 60 St., Chicago 37, Ill. May 1946. Bibliography. 16 pp.* $1.00.

Reprints of articles on housing taken from the 1946 Municipal Year Book. The pamphlet includes a report on developments in the housing field during 1945, an analysis of state urban redevelopment legislation, and a listing of selected standard references on housing.

St. Louis Studies Waste Collection

REPORT ON WASTE COLLECTION AND DISPOSAL BY MAYOR'S COMMITTEE.—*St. Louis, Mo.* 1946. *Illus. Mimeo.* 18 *pp.*

Report and recommendations of the special mayor's committee appointed to study methods of waste collection and disposal. The committee studied methods in Milwaukee, Cleveland, Pittsburgh, Baltimore, Washington, and Cincinnati, and the report includes pictures of collection techniques in these cities. In addition to these photographs, the report includes an organization chart of service in St. Louis and suggested changes to facilitate service.

Types of Amusement Tax

AMUSEMENT TAXES.—*Federation of Tax Administrators.* 1313 *East* 60*th St., Chicago, Ill.* 1946. *Mimeo.* 12 *pp.*

Analysis of the three general types of amusement taxes in the United States. The paper compares the rates of the various taxes in different states and presents the yield of these taxes as well as a breakdown to per capita in each case. The taxes discussed are: admissions and gross receipts tax, the tax on mechanical amusement devices, and the license tax on places of amusement or exhibitions.

Taxicab Ordinance

MODEL TAXICAB ORDINANCE.—*Report* 293. *League of Virginia Municipalities, 902 Travelers Bldg., Richmond, Va.* 1946. 9 *pp. Mimeo.* 50c. (*free to Virginia municipal officials*).

Suggested taxicab ordinance for the smaller communities of Virginia, which can be used as a model and adapted to local conditions. The ordinance follows in principle, though somewhat simpler in form, the ordinance adopted by Danville and upheld in 1945 by the Supreme Court of Appeals in Virginia which regards "the right to use the streets of a city as a common carrier for hire . . . a privilege and not an inherent right, and may be granted or refused by the city, in the exercise of its police power."

Forty Years of Municipal Finance In Massachusetts

LEGISLATION AFFECTING MUNICIPAL FINANCE IN MASSACHUSETTS: 1906-1945.—*By Thomas L. Hinckley. Bureau for Research in Municipal Government, Harvard Graduate School of Public Administration, Cambridge, Mass.* 1946. *Mimeo.* 36 *pp.*

Summary of the effects of major changes in state legislation upon Massachusetts municipal finances during the last forty years. The study traces the influence of changing economic and social conditions on legislation; the increasing importance of motorized highway transportation as a source of revenue and expense, expansion of municipal activities during prosperity, and the use of public welfare in times of depression, etc. The study reflects the swing toward income and excise taxes rather than property taxation and analyzes the role of the state in local finance. The summary ends with a chronological reference list of statutes affecting municipal finances during the period covered.

A Traffic Enforcement Plan That Worked

EVERY POLICEMAN A TRAFFIC OFFICER.—*By Joseph Kluchesky. ENO Foundation for Highway Traffic Control, Saugatuck, Conn.* 1946. 16 *pp.*

Digest of the address delivered by Mr. Kluchesky before the Second Annual Highway Traffic Conference of the ENO Foundation. The report outlines the methods of the Milwaukee police that have reduced the city's traffic accident death rate and kept it the lowest in the country for the last fifteen years. Mr. Kluchesky, who developed the traffic system which made this record possible, explains that the entire police force is responsible for directing traffic and enforcing the traffic laws. Traffic work can be handled in every community, he feels, by effectively training the general police in traffic fundamentals.

Public Works Report

FIFTY-SECOND ANNUAL REPORT FOR THE FISCAL YEAR ENDING DECEMBER 31, 1945.—*Board of Public Works of the City of Holland, Mich.* 1946. *Charts.* 60 *pp.*

A report which reflects certain problems of reconversion from war to peace and how they affected a small city's public works department. The Holland Board of Public Works has under its supervision the water works, the electric and power company, a sanitary sewer system, a fire alarm telegraph system, and the administration of the plumbing code and the electric wiring code. This report of the departmental activities contains analyses of costs for each department. The departments are debt-free; and, for the first time in many years, some have invested reserve covering depreciation.

Plea for Adequate Building Codes

BUILDING CODES UNDER FIRE.—Business Week, *McGraw-Hill Publishing Company, Inc., New York, N. Y. March* 23, 1946. 4 *pp.*

Reprint of an article in the March 23, 1946 issue of *Business Week* studying the deterrent effect of outmoded building codes on the building industry. The codes are criticized for three major faults—old age, poor administrative procedures, and lack of performance standards. The article points out that revision of antiquated codes is a slow and difficult process and analyzes the difficulties that face cities attempting to amend codes and write new ones.

New List of Standards

CATALOG OF AMERICAN STANDARDS.—*American Standards Association,* 70 *East* 45 *St., New York, N. Y.* 1946. 23 *pp.*

Revised list of standards approved to date by the American Standards Association. The booklet lists 845 standards widely used throughout industry and should be useful to manufacturers, engineers, sales organizations, and consumer groups. The list covers specifications for metals and other materials, dimensions, safety provisions, methods of work, and testing for the finished product. The price of the pamphlets listed is given in each case and they can be obtained from the association.

Comprehensive Housing Survey

HOUSING AND CITIZENSHIP.—*By George Herbert Gray. Reinhold Publishing Corporation,* 330 *West* 42 *St., New York, N. Y.* 1946. *Illus.* 254 *pp.* $5.50.

This is the most profusely illustrated book on housing that has yet appeared. In 47 full page plates there are grouped more than 300 photographs and plans. There are also 13 separate graphs and 25 tables of data on pertinent matters. With this wealth of material, the book should be of value to architects, planners, and interested persons from all fields of civic life.

Major Gray traces our current housing conditions to sociological and economic roots and shows how similar problems have been dealt with in Europe. He also presents a careful, well-coordinated plan for future low-cost development in this country which is of special interest at this time.

Women Employes

WOMEN IN INDUSTRY: THEIR HEALTH AND EFFICIENCY.—*By Anna M. Baetjer. Divisions of Medical Sciences and Engineering and Industrial Research of National Research Council. W. B. Saunders Company, Philadelphia, Pa.* 1946. *Tables.* 344 *pp.*

Comprehensive study of the problem of the utilization of womanpower in industry. The study presents an analysis of the ability of women to perform operations which had previously been considered suitable for men only, together with facts concerned with the relationship of employment to the health of women. Information is included on the proper placement of women when their service is required. A number of questions which are yet to be answered concerning the employment of women are raised. An extensive bibliography is included and each section contains additional references to publications on the subject.

Manual on Airport Engineering

AIRPORT PLANNING.—*By Charles Froesch and Walther Prokosch. John Wiley and Sons, Inc., New York, N. Y.* 1946. *Illus.* 250 *pp.* $7.00.

A practical compilation of data on peacetime civilian airports. The book stresses the broad aspects of airport planning, which many texts have a tendency to overlook. It analyzes problems of air terminal planning from a fundamental and functional viewpoint. The study discusses the proper relationship of landing facilities to communities and regions which they serve, and the integration of air transport facilities into the overall transportation pattern.

A careful analysis of characteristics affecting the design of landing facilities is accompanied by a coordinated treatment of the principal elements comprising an airport and an analysis of proper balance between the field and the buildings of the airport.

Study of Construction Contracts

LEGAL PHASES OF CONSTRUCTION CONTRACTS.—*By I. Vernon Werbin. McGraw-Hill Book Co.,* 330 *West* 42*nd St., New York, N. Y.* 1946. 267 *pp.* $3.00.

Useful source of information on 46 different legal problems that have arisen in connection with construction contracts. The study presents court precedents that have been established on these problems, with the facts and provisions involved as well as the fundamental principles of the law involved. It is intended as a source of information for owners, architects, and engineers as to their rights in questions of contract and as assistance in the protection of these rights.

Public Contracts and the Public Interests

THE PROTECTION OF THE PUBLIC INTERESTS IN PUBLIC CONTRACTS.—*By Herman G. James. Public Administration Service,* 1313 *East* 60 *St., Chicago, Ill.*

Analysis of the characteristics of public contracts and the underlying principles of protecting the public in the matter of such contracts. The author states that the field under discussion represents the area in our government which has been responsible for more waste and corruption than any other aspect of public life. He feels that this is due in part to the fact that there is no thorough study of the problem available to the general public which would explain the underlying principles of public contracts. In his study, he attempts to show what has been done and should be done to protect the public interests. Statutory provisions of all the states are examined as well as charters and ordinances of principal cities.

Today's Citizen

CITIZENSHIP AND THE NEW DAY.—*By Parley Paul Womer. Abingdon-Cokesbury Press, New York, N. Y.* 1946. 307 *pp.* $3.00.

A practical analysis of the foundations and potentialities of citizenship in America today. The study includes historical background, ethical and religious influences, analysis of the nature of American citizenship as it is interpreted today, and application of basic principles of democracy to current problems. The author studies the democracy of the Greek city-states and turns to an appraisal of the forces and influences which have produced modern democracy. The broader basis of democracy, which he feels has been established recently by an extension of citizenship, is analyzed together with the closely related subject of the ideals and values of citizenship education.

Mr. Womer stresses throughout his study the basic assumption that the American democracy is man-made, like all human institutions, and depends on the competence of its citizens. The competence is itself man-made and depends in turn upon education and experience. The ideals which supply the principles for the structure of this man-made democracy can be the weakest or strongest feature in our democratic system as we choose to make them, he maintains.

Orientation Study of Municipalities

HANDBOOK FOR ILLINOIS MUNICIPAL OFFICIALS.—*By Thomas A. Matthews. Illinois Municipal League, 537 South Fourth St., Springfield, Ill.* 1946. 47 *pp.* $1.00.

Manual outlining the nature and extent of municipal functions and the duties imposed on officials by statute. The first chapters of the study are devoted to a general discussion of the municipality in the governmental structure, powers of municipalities, finance, types of government, and provisions relating to all municipal officers. The author then discusses the various offices in greater detail with specific references to Illinois statutes. The handbook considers only the powers and duties of officials in Illinois municipalities with a population of less than 500,000.

Public Health In America

PUBLIC HEALTH—Building America, *Vol. XI, No. 6.—Building America, 2 West 45th St., New York, N. Y. Illus.* 29 *pp.* 30c.

Analysis of the status of public health in this country, effectively illustrated with photographs, charts, and graphs. The study presents the development of public health and cites milestones in our progress from 1647, when one of the earliest quarantine laws was passed, to the passage of the Public Health Act in 1944. The contribution of volunteer workers to the cause of public health is recognized and the work of our current public health agencies is described. The job that is still to be done in the field of public health is outlined and methods of attacking the problem are suggested.

Planning the Community Hospital

MEASURING THE COMMUNITY FOR A HOSPITAL.—*American Hospital Association, 18 East Division St., Chicago, Ill.* 40 *pp.* 25c.

Helpful study of community needs and the various types of hospitals and health centers which can be planned to supply adequate facilities. The material is reprinted from Book I of the 1945 Hospital Review entitled "The Individual Hospital." The booklet discusses the various factors to be considered by a given community in planning the hospital and presents an outline of the steps to be taken when the plan is actually under way. Staff, costs, make-up of governing and advisory boards, and fund raising are a few of the practical considerations dealt with.

Community Facilities in New York's Housing Projects

COMMUNITY RELATIONS IN PUBLIC HOUSING PROJECT AREAS.—*United Neighborhood Houses, 114 East 32nd St., New York, N. Y.* 1946. *Unpaged.*

Report on recreational and community facilities in New York City's public housing projects together with reports from a conference in February 1946 of federal, state, and city housing officials. The booklet points out means of achieving a city-wide program of neighborhood and community planning through pooling of settlement and neighborhood center resources. Indoor and outdoor play areas are discussed, community relations counsellors' activities are outlined, and programs of other cities are cited.

Los Angeles Water Supply

WATERLINES: KEY TO DEVELOPMENT OF METROPOLITAN LOS ANGELES.—*Prepared by Charles W. Eliot assisted by Donald F. Griffin. Haynes Foundation, Los Angeles, Calif. Illus. 39 pp.* 50c.

Study of the problem of water supply and control in Metropolitan Los Angeles. The author has brought together the story of past developments and plans for new projects which have been prepared by various agencies. He presents the need for obtaining adequate water supply and maintaining effective flood control, and cites projects of neighboring valleys which are designed to deal with both types of problems. He also stresses the value of waterlines in freeway planning and recreational development. Maps are used throughout the study and useful references are given.

(See page 93 of this issue.)

Housing and Planning Directory

PROVISIONAL DIRECTORY OF HOUSING AND PLANNING AGENCIES: UNITED STATES AND LATIN AMERICA.—*Pan American Union, Division of Labor and Social Information, Washington, D. C.* 1946. *Mimeo.* 25 *pp.*

Provisional directory of organizations, periodicals, and educational institutions in the field of housing and planning intended to encourage and facilitate the interchange of information throughout the Americas. This directory will be superseded by a revised edition to be issued soon. The importance of international exchange is stressed, and the services of the Pan American Union's Labor and Social Information Division are offered to facilitate such exchange. The book is presented in two sections; United States organizations and publications, followed by Latin American sources.

Other Reports Received

AMERICAN ROAD BUILDERS' ASSOCIATION.—*Traffic Death; a Challenge to the Highway Industry.* An Address by Spencer Miller, Jr. Technical Bulletin No. 101. Chicago, Ill. 1946. 5 pp.

AUBURN, ME.—Annual Report Water and Sewerage Districts. 1945. Charts. 24 pp.

CORNING, IOWA.—Tenth Annual Report of Corning Municipal Utilities. 1946. Charts. 12 pp.

DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH.—LONDON, ENGLAND.—*Animal Life in Percolating Filters.* Water Pollution Research. Technical Paper No. 9 by T. G. Tomlinson. Water Pollution Research Laboratory, Langley Rd., Watford, Herts.

DENVER, COLO.—*Financing City and County Government in Denver.* University of Denver Reports. Report No. 5. Vol. 22, No. 1. March 1946. 19 pp.

LITTLE ROCK, ARK.—Tenth Annual Report of Little Rock Municipal Water Works. 1945. Charts. 82 pp.

MARQUETTE, MICH.—Reports of City of Marquette. 1945. Charts. 104 pp.

MICHIGAN MUNICIPAL LEAGUE.—*The Michigan Municipal Employees' Retirement System.* 1946. 11 pp.

Explanation of the Michigan Municipal Employees' Retirement Act. 205 South State Street, Ann Arbor, Mich. 1946. 16 pp.

MILWAUKEE, WIS.—*Annual Report to the Citizens.* 1946. Illus. 101 pp.

Financial Summary for Milwaukee County. 1945. Charts and Tables. 86 pp.

MONTCLAIR, N. J.—*What the* 1945 *Tax Dollar Bought.* Department of Public Works. 1945. Illus. 4 pp.

NEW ROCHELLE, N. Y.—Auditors Annual Report. 1945. Charts. 147 pp.

OGLESBY, ILL.—Fifteenth Annual Report. 1946. Illus. 53 pp.

PHILADELPHIA, PA.—Art Jury—Thirty-Fifth Annual Report. 1945. 30 pp.

PITTSBURGH, PA.—*Pittsburgh: Groundwork and Inventory for the Master Plan.* Dept. of City Planning. 1945. Index. 180 pp.

SEATTLE, WASH.—Annual Report for Department of Lighting. 1945. Tables. 29 pp.

SPRINGFIELD, MASS.—*Research in Action.* Future Springfield, Inc. 1946. Unpaged.

How to Make Property Surveys

(*Continued from page* 96)

ficient of error. All angles with a transit shall be determined by the continuous repetition or run-up method, dividing the sum total of the angles by the number of repetitions for the average value of the measured angle.

All levels shall be maintained in close adjustment and the readings of elevations shall be made with equal fore and back sights as nearly as practicable and/or adjustment made to field readings by pre-determined co-efficient of error.

The minimum accuracy of linear measurements between points shall be 1/10,000 on all property lines of boundary or interior survey. Preliminary or reconnaissance surveys shall maintain an accuracy of not less than 1/5,000, except in those cases where general information only is to be obtained and no precise monumented corners are to be created.

In a closed traverse the sum of the measured angles shall agree with the theoretical sum by a difference not greater than five seconds per angle or the sum of the total angles shall not differ from the theoretical sum by more than ninety seconds, whichever is smaller.

A circuit of levels between precise bench marks or a circuit closed upon the initial bench mark shall not differ more than 2/100 feet multiplied by the square root of the number of miles in the circuit, and in no case to exceed 5/100 foot, except in levels for preliminary or rough stadia control, in which case the allowable error of closure may be 1/10 foot.

All field measurements must be balanced, both as to angles and distances, so that the dimensions shown on the map of such survey will be mathematically exact; this will permit the proper use of the prorate method in field relocation.

Bearings or angles on the map shall be given to nearest five seconds; distances to nearest hundredth of a foot.

Accuracy of measurement in triangulation dimensions shall conform with the standards set by the U. S. Coast and Geodetic Survey.

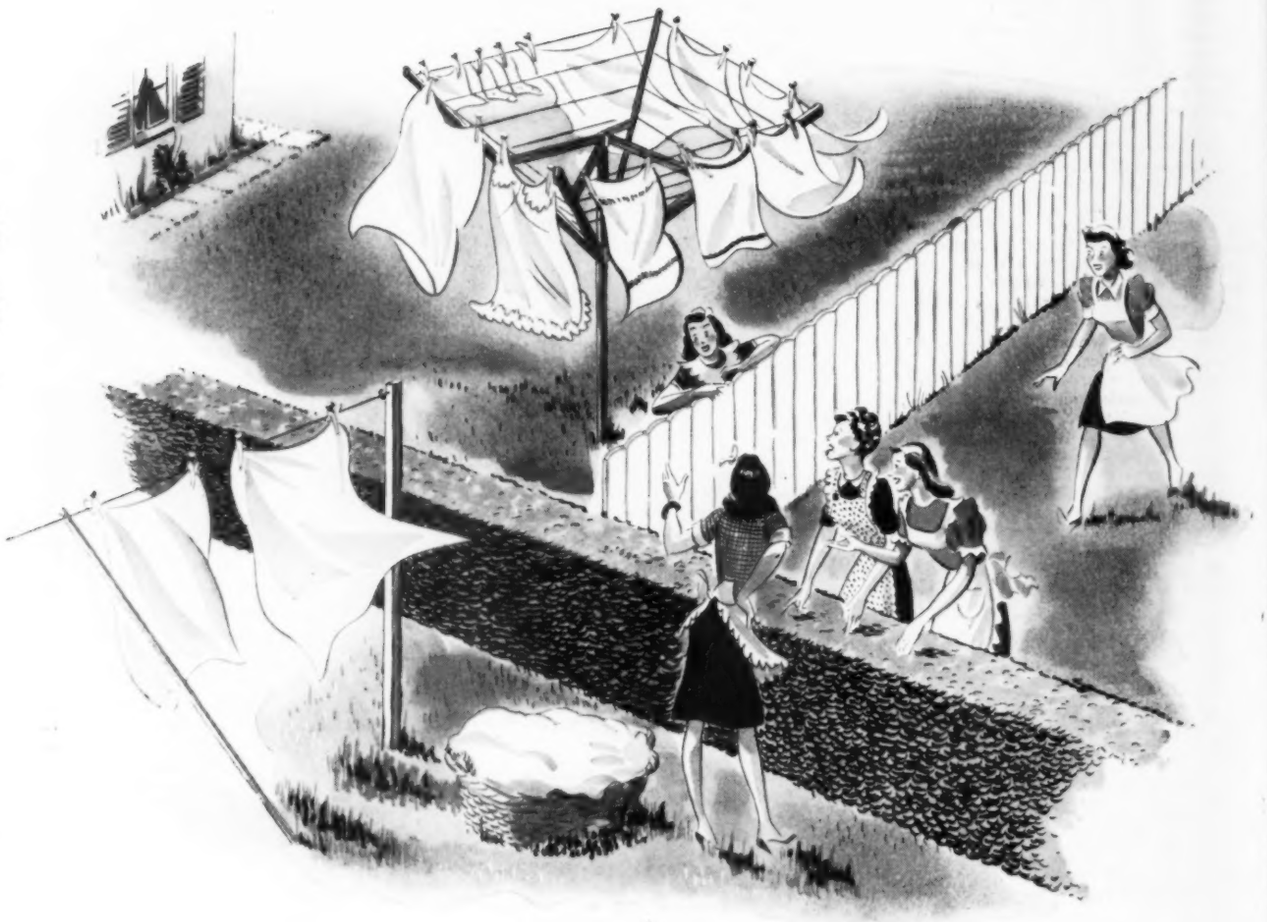
MONUMENTS.—The type and position of monuments to be set on any survey shall be determined by the nature of the surveys, the permanency required, the nature of the terrain, the cadastral features involved, and the availability of material.

Monuments set in an inhabited area with improved streets, buildings, and other more or less permanent topographical features, shall be such as will remain for the life of such features and may be set in contact with or alongside of such semi-permanent structures with reasonable security. Monuments set in open country where their maintenance is to be continued for long periods shall be of a material such as concrete, rock, or metal, of sufficient size that they will not be readily removable and will be easily discoverable, placing witness monuments of ready visibility alongside or nearby, if necessary.

Except in the case of original surveys, in which monuments are to be referred to in the record, permanent monuments shall not immediately be placed on lines or in positions where the destruction of the same is more or less immediate by reason of construction, but semi-permament monuments, such as stakes, pipes or other material, shall be set in protected spots at definite known distances from the true corners for purpose of location of such corners after construction is completed. The surveyor shall make a definite commitment of record, that he will correctly set such true corners as soon as their permanence in position can be assured.

PLANNING AND DESIGN.—No standard is set for planning and design of land line location as to the form and position of such lines. Each particular problem carries its own plan and its own design within itself. A plan acceptable in one locality or under some conditions may not be adaptable in another.

THE WHOLE TOWN'S TALKING!

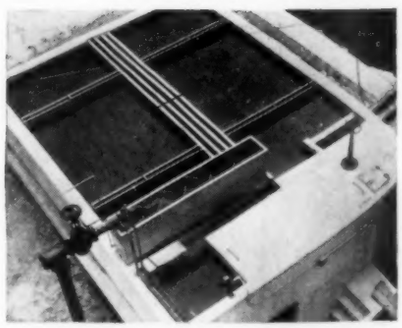


Every housewife in town is bursting with the exciting news of snow-white washes, with less effort, less soap. The reason? Their city management has installed modern, efficient Permutit* Water Conditioning equipment. It's the biggest thing that has happened in years.

From now on, municipal water will be clear...soft...iron-free! And good water does more than end household drudgery; it benefits everyone in town—shops, restaurants, and industry!

If your community has a hard-water problem—and the chances are it has—why not let the engineers of America's most experienced water-conditioning company solve it for you. Write today to The Permutit Company, Dept. A-8. 330 West 42nd St., New York 18, N. Y., or Permutit Company of Canada, Ltd., Montreal.

*Trademark Reg. U.S. Pat. Off.



PERMUTIT SPAULDING PRECIPITATOR ... removes water hardness, dirt, and color by the sludge blanket process. This modern equipment cuts detention time, saves chemicals, takes only half the space of former methods. This is only one of many Permutit methods of treating municipal water supplies.

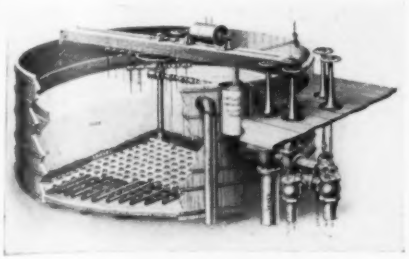
PERMUTIT

WATER CONDITIONING HEADQUARTERS

News and Illustrations

Items of Interest to City, Town and County Officials and Others Concerned with the Economical Construction and Efficient Operation of Public Improvement Undertakings

Small Wood Stave Filters Show Efficiency



A cut-away view of the American water softener wood stave filter.

The smaller type of water filter plant, such as is required for swimming pools and small communities, can take advantage of the wood tank open gravity filter with the reversible power agitator manufactured by the American Water Softener Co., Lehigh and Fourth St., Philadelphia, Pa.

These filters vary from 6 to 17 feet in diameter and are designed with capacity rates from 2 to 4 gpm per square foot of filter bed area. The company engineers recommend a rate of 2 gpm per square foot for filtering water of high turbidity and for domestic consumption.

The filter tanks may be of cypress, redwood, fir, cedar, steel or concrete as is preferred. For potable water, cypress tanks are usually recommended.

Operators will appreciate in particular the agitating apparatus. This is power driven and travels in both directions. During the backwashing cycle, a reversed stream of water is forced upward through the underdrain system, lifting and permeating the filter bed. The rake bars are revolved through the sand bed in a perpendicular position, thus subjecting the bed to the double action of the agitator and wash water which effectively breaks up any mud balls and otherwise thoroughly cleanses the bed. After the filter bed is clean, the rotation of the rake bars is reversed and through a one-way hinged action, the bars are brought to rest on the top of the sand bed, thus preventing water following the rake bars through the sand layer and forming channels when filtering. The backwash rate is 7½ gpm per square foot of filter area.

Tucker Forms Equipment Company

R. S. Tucker has recently formed the Power Equipment Co., 1358 Island Home Avenue, Knoxville, Tenn., for the sale of construction, industrial, and municipal equipment for the Knoxville territory.

Mr. Tucker formerly was affiliated with the Brooks Equipment Co., 408-10 Davenport Road, Knoxville 8, Tenn.

LaFrance Names Rice to Sales Manager Post

Appointment of W. P. Rice as General Sales Manager of Ward LaFrance Truck Division, Great American Industries, Inc., Elmira, New York, is announced by A. A. Frank, vice - president and general manager. He will be directly in charge of all sales and service activities covering all products of the division, for domestic use and export.

W. P. Rice

Rice entered the industry in 1921 with the Fageol Bus Branch in Oakland, Calif. Later he was associated with General Motors and subsequently became a sales representative and manufacturers' agent in the independent parts field. In 1938 he returned to GM with the Chevrolet Motor Division, leaving the division upon the outbreak of war to serve as assistant to the chief of industrial operations, of the Tank-Automotive Center, Ordnance Department, Detroit. Upon completion of this service in 1943, he joined Willys-Overland as assistant to the general manager of the Jeep Division, with headquarters in Detroit, supervising war products sales.

New Synchronous Disc Motor for Traffic Signals

Announcement will be made soon by Eagle Signal Corp., Moline, Ill., of a three-dial controller, which, because of a new synchronous motor, will help meet the demand for more effective traffic control in metropolitan areas subject to wide variations in traffic flow.

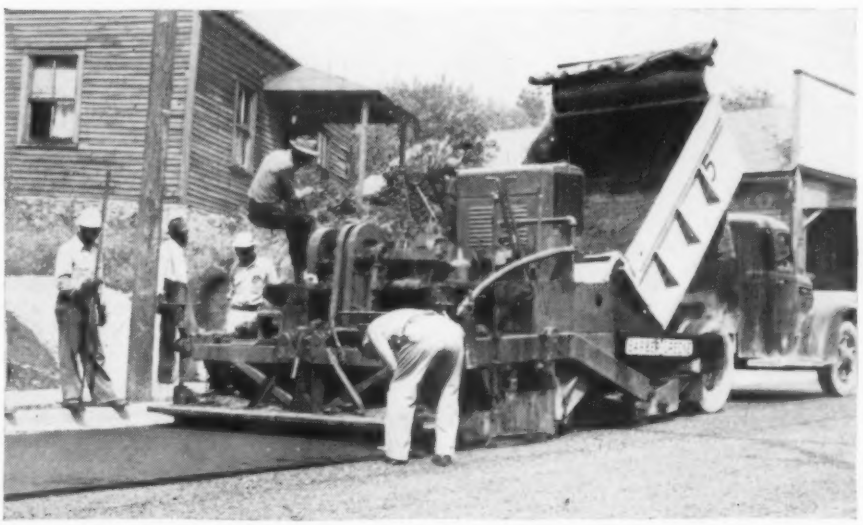
The synchronous motor, compact and equipped with ball bearings, has a simple and positive mechanism which assures its keeping in step with the master controller.

The motor is interchangeable with older type motors and has been used with outstanding success, particularly in the Eagle EA controller. The entire mechanism is accessible and provides Eagle controllers with added dependability, accessibility, and positive operation.

What You Should Know About Asphalt

Petroleum asphalt, its origin, how it is made, how to use it, and what tests are made on it, all are discussed by technicians of the Texas Co., 135 E. 42nd St., New York 17, N. Y., in this company's June issue of its publication, *Lubrication*. The article devotes a carefully prepared section to asphalt paving, pointing out that this constitutes a major use of asphalt from a tonnage basis.

The Texas Co. advises that additional copies of the issue containing copies of this article are available upon request.



TEXAS CO. PHOTO

A Barber-Greene mixer in a typical municipal asphalt resurfacing improvement.

Utility Lamps "High Light" New York

New York—the city of skyscrapers . . . teeming traffic . . . busy thoroughfares . . . millions of pedestrians—requires the highest quality street lighting. And thousands upon thousands of UTILITY Street Lighting Lamps are faithfully providing efficient, dependable service throughout the city. Because New York recognizes UTILITY'S specialized manufacture . . . long years of research, and built-in quality. Try UTILITY Lamps in your city.

UTILITY LAMP DIVISION

McHUGH PRODUCTS

BROOKLYN, NEW YORK

SUCCESSOR TO SLATER ELECTRIC & MFG. CO.

Gail Rutledge Becomes Director of General Detroit

E. A. Warren, vice-president of General Detroit Corp., Detroit, Mich., announces the appointment of Gail Rutledge as director of national accounts and coordinator of branch office activities for the corporation. His new position carries the title of assistant to the vice-president.

Gail Rutledge

Rutledge joined the General Detroit Corp. in 1944. Previous to that he was associated with the sales department of the Addressograph Division of the Addressograph - Multigraph Agencies for nine years. His new position is concerned with coordination of the work of the corporation's branch offices.

The General Detroit Corp. manufactures a complete line of Underwriters' approved fire-fighting equipment, including carbon-dioxide, vaporizing liquid, soda-acid, foam, and pump-type extinguishers. It also manufactures fire trucks, fire hose, and various types of allied apparatus.

Frank Shaw Reopens Consulting Office

After five years of work on war plant construction, Frank H. Shaw has reopened his consulting office at 53 N. Duke St., Lancaster, Pa.

Mr. Shaw will cover the fields of water supply, sewerage, industrial plants, survey estimates, reports and appraisals.

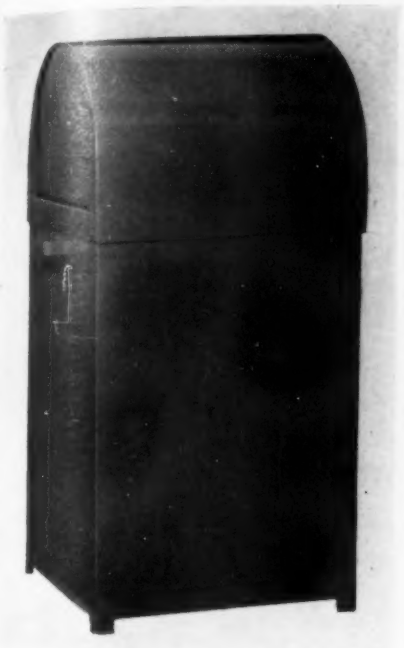
Acidizing Improves Well Production

Water wells may be driven in almost any type of formation including loose sands, gravels, limestones, and dolomites. Often the wells produce satisfactorily but decline in production as they get older. Scale deposits on the screens, and the presence of silt and other extraneous matter in the gravel pack often contribute to this difficulty.

Dowell Inc., Kennedy Bldg., Tulsa, Okla., through its work on many industrial wells, has developed experience that results in removing this scale and material by the acidizing method. The engineers with this company also have been able, by analyzing water-bearing formations, to increase the yield of new wells, particularly when they are driven in limestones or dolemites.

In wells producing water for domestic consumption, the engineers use a non-toxic inhibitor with the acid that leaves no taste or odor but which adequately protects the well equipment against corrosion.

Keep Refuse Cans Closed



Tarrant's Paragon refuse container.

Public cooperation is a lot better if neat, covered refuse cans are conveniently placed for their use. Tarrant designers, recognizing this, have built the Paragon refuse can to meet these specifications. The cans are hooded with the hoods either open-ended or equipped with self-closing doors. The top is quickly removable for emptying; the can itself will hold 5 bushels of waste.

The hooded feature protects the trash from rain, wind, or snow, and also keeps it from being an unsightly nuisance. The rugged heavy gage construction, welded, insures long life.

The cans are manufactured by Tarrant Mfg. Co., Saratoga Springs, N. Y.

Mayer Appointed to Asphalt Institute

Bernard E. Gray, general manager-chief engineer of The Asphalt Institute, announces the appointment of Charles A. Mayer, as assistant engineer in the New York office of The Asphalt Institute, to act in the capacity of an administrative engineering assistant to the general manager.

Charles A. Mayer

Mr. Mayer for a number of years served as a partner in the firm of Dow and Smith, consulting paving engineers.

During the war, he was associated with the construction of a number of foreign army air bases under a variety of conditions, and is thoroughly familiar with airport paving problems.

Mr. Mayer is a member of many technical and engineering societies, including the American Society of Civil Engineers and the Association of Asphalt Paving Technologists.

Hercules Reorganizes Capital Structure

The Hercules Steel Products Co., Galion, Ohio, announces a reorganization of its capital structure and that of its parent company, The Galion Metallic Vault Co. The parent company has been manufacturing metallic burial vaults since 1905 and in addition, since 1914 has been manufacturing and selling truck equipment through its unincorporated subsidiary, the Hercules Steel Products Co.

In the reorganization, the Hercules Steel Products Corp. of Delaware has been formed and now controls the stock of the Galion Metallic Vault Co., Galion, Ohio, and also operates the unincorporated subsidiary, which will still function under the name of Hercules Steel Products Co.

Coincident with the reorganization, plans have been made to increase greatly the production of hoists and bodies.

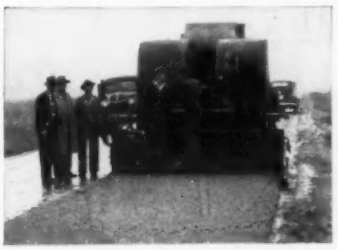
H&B Moto-Paver

THE COMPLETE TRAVELING MIXER AND PAVER

Does the Complete Mixing and Paving Job

● The Moto-Paver mixes, spreads and lays any type of mixed-in-place bituminous material to any road width, thickness and crown condition. No separate loader, spreader or other paving equipment is required—no trailer to haul the machine from one job to another.

The Moto-Paver does *the complete mixing and paving job,* and travels from one job to another under its own power. Paving speed is from 4 to 50 feet per minute, road speed up to 18 miles per hour. Mixing capacity 100 to 120 tons per hour. Bulletin MP-46, giving complete information and specifications, will be sent on request.



Resurfacing Michigan Road with the Moto-Paver

HETHERINGTON & BERNER INC.
719 KENTUCKY AVE. • INDIANAPOLIS 7, IND.

Also Builders of Portable and Stationary Batch Mix Plants of All Types and Capacities

H&B Hetherington & Berner

KARPARK

solves any time problem

• What will be the legal parking period? Shall the cost be one cent, five cents, twenty-five cents? These are important questions for, on the answers, the popularity of meter parking with the public greatly depends. Whatever the problem KARPARK has the solution. Available in any practical combination KARPARK meets any timing or coin requirement. Important as it is, the right time and coin combination is just one of the points that determine the meter that will assure a successful meter parking system. To make a sound decision write for information about all the features that make KARPARK the wise choice.

KARPARK *Automatics*

KARPARK CORPORATION, CINCINNATI 6, OHIO

KARPARKS ARE MANUFACTURED BY THE HERSCHEDE HALL CLOCK CO.

This war has taught America mobility . . . the value of self-contained units that can get to the job, do it, then get quickly on to another.

On short compressed-air jobs, where maximum mobility means greatest efficiency, the Davey truck-mounted AUTO-AIR has no competition. Powered by the truck engine through the Davey Heavy-Duty Truck Power Take-Off and mounted behind the cab, using less than one-third of the truck space, the Davey Auto-Air leaves plenty of room for men, tools, and materials.

MOBILITY — ECONOMY — VERSATILITY

A choice of three units—compressor, compressor-welder, or compressor-welder-lighting generator—offers ability to do almost any job. Compressors available in 60, 105, 160, 210 and 315 cu. ft. capacities . . . welding and lighting generators to suit your requirements.

For full information on the complete Davey Line of Compressors, Truck Power Take-Offs, Pneumatic Saws and additional pneumatic engineering data, write today for free catalog E-172.

DAVEY *Compressor Co.*

KENT • OHIO

DEALERS IN PRINCIPAL CITIES

WANTED: TRAINED CITY ADMINISTRATORS

☆ Cities all over the country are losing some of their top administrators to the federal and state Governments and to industries. Unless there are trained replacements for these key men, city governments will be seriously crippled. If you are a department head, you owe it to your city to train an "understudy" for your job. If you are a junior administrator, now is the time to prepare for advancement.

Enroll now in one of these eight practical correspondence courses:

- Technique of Municipal Administration
- Municipal Finance Administration
- Municipal Police Administration
- Municipal Recreation Administration
- Municipal Personnel Administration
- Municipal Public Works Administration
- Municipal Fire Administration
- Local Planning Administration

☆ Special texts have been prepared for administrators on the job. Lesson papers are reviewed by leading authorities in each field. The $35 fee for each course covers the text, individualized lesson instruction, and a certificate upon satisfactory completion of the work. The text alone sells for $7.50 a copy—$55 for a complete set. For use in group training projects, in lots of five or more, the price is $6 a copy.

There are now nearly 1500 public officials enrolled in these courses in nearly 300 cities in 46 states.

WRITE FOR A SPECIAL CIRCULAR TODAY

THE INTERNATIONAL CITY MANAGERS' ASSOCIATION

1313 EAST 60TH STREET CHICAGO 37

Emphasis Laid on Catch Basin Cleaning

The catch basin cleaner used by Kearny, N. J.

Four east coast cities strengthen their street cleaning departments by the use of catch-basin cleaning machines. Among these is Kearny, N. J., with its new Gar Wood catch-basin cleaner with a 15-inch Hayward bucket. Irvington, N. J., also has a similar cleaner as does Floral Park, N. Y., and Providence, R. I.

The organ-peel bucket is well fitted to use in close quarters such as catch-basins. The Gar Wood mechanism features simplified operation controlled by two levers and a foot pedal. The hoisting apparatus is patterned after designs used by the army for salvaging and repairing M-1 tanks.

Vincent J. Macklin Joins Neptune

Vincent J. Macklin has joined the staff of Neptune Meter Co. as a sales engineer after having completed an intensive course in Trident and Lambert Water Meters at Neptune's Long Island City School. Mr. Macklin's territory is the State of Nebraska. His headquarters are at the Kansas City office.

Vincent J. Macklin

Mr. Macklin was a Technical Sergeant in the U. S. Army Signal Corps. He was a Radar technician and instructor for three years, eight months of which he spent on Okinawa.

Stand-By Power— Portable or Stationary

Municipal uses of Consolidated Diesel Electric Corp. generator sets and floodlight units include such applications as airports, docks, emergency and standby lighting, fire fighting, hospitals, repair shops, and water and sewage treating plants.

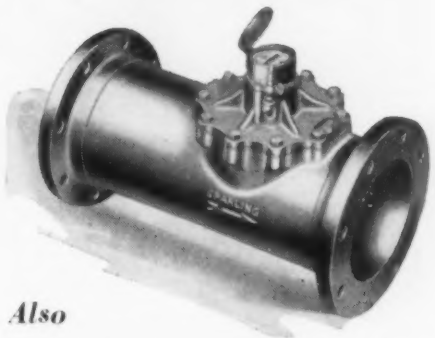
Consolidated generator sets are complete electric power plants. They can be used not only as stand-by power units but also to reduce peak load charges. Standard sizes range from 5 to 75 kw, AC or DC, at all standard voltages. Larger units can be ordered.

Consolidated's portable floodlight units are trailer-mounted on pneumatic tires or mounted on skids if required.

Both units are manufactured by Consolidated Diesel Electric Corp., 230 East 8th St., Mount Vernon, N. Y.

SPARLING METERS

Complete Totalizing Units for Main Lines



Also

RECORDERS • INDICATORS and CONTROLS

Bulletin 309 Now Ready!

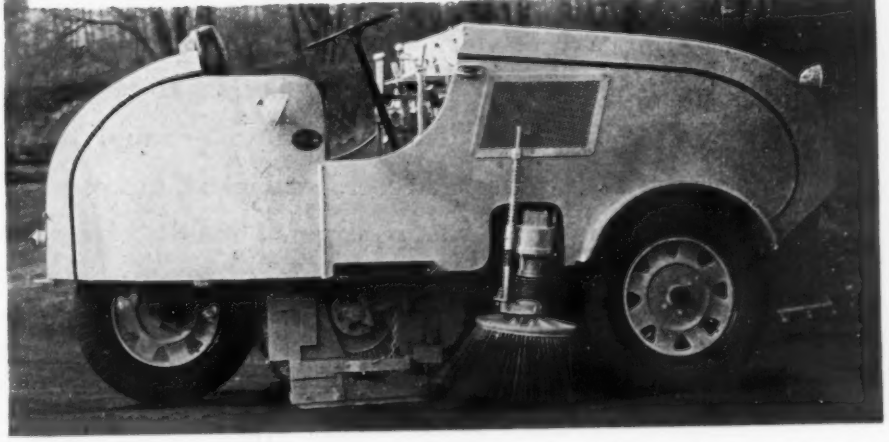
R. W. SPARLING

Manufacturer of Water Measuring Equipment

Los Angeles — Chicago — New York
Cincinnati — Boston

South Bend **GUTTER-SNIPE**

Pick-up Street Sweeper



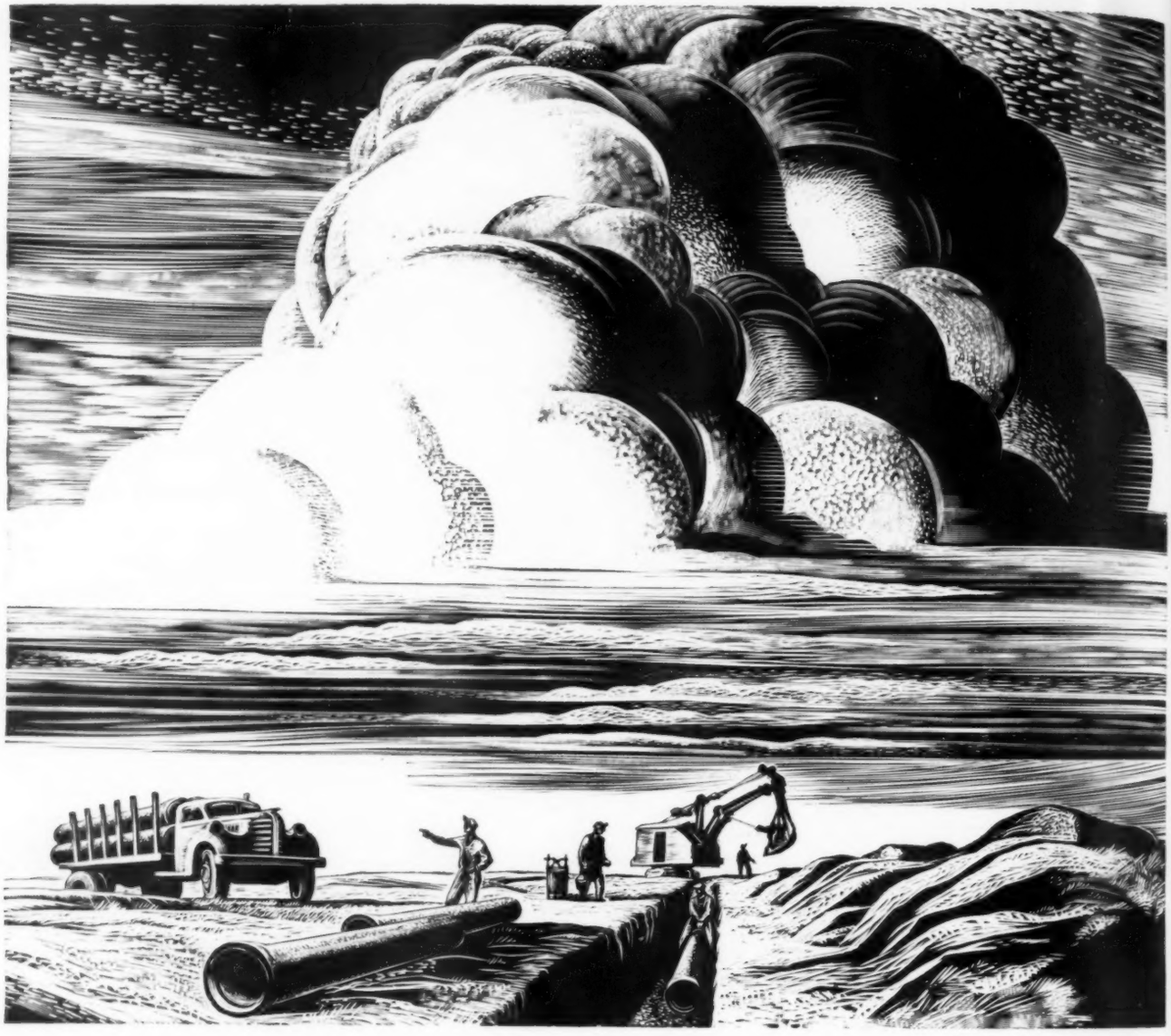
MUNICIPAL SUPPLY COMPANY

Manufacturers

Street Sweepers
Street Flushers
Bituminous Distributors

SOUTH BEND 23, INDIANA

EXPORT DEPARTMENT, 44 Whitehall Street, NEW YORK 4, N. Y., U. S. A.



Original Woodcut by Lynd Ward

When a growing community decides to construct a supply line to tap new sources of water supply, it plans for future as well as present needs. It is logical, therefore, that long-lived cast iron pipe should so frequently be given the preference over other materials, even at a higher first-cost. For this type of construction should be permanent construction. The pipe should be bought once, laid once, and cost little or nothing to maintain. U. S. Cast Iron Pipe, in supply line service, has been meeting these requirements for many years in all parts of the country.

U.S.
cast iron
PIPE

U. S. PIPE & FOUNDRY CO.
General Offices: Burlington, N. J.
Plants and Sales Offices throughout the U. S. A.

American Coach & Body Co. Develops Standard Utility Body

One of the new truck bodies used by the American Coach & Body Co.

A standard utility body which can be mounted on a ¾-ton or one-ton chassis is now available to municipalities and gas utility companies for use for routine meter changing, general maintenance and repair work. It is a development of The American Coach & Body Co. of Cleveland, Ohio, and is known as the American Gas Meter Installation Body, Type 4750.

Side boxes and sliding tray can be equipped with meter compartments which will hold seven (10-light) and seven (5-light) meters. Twelve (5-light) and five (10-light) meters can be carried in the sliding tray.

Much forethought was given to safeguarding meters from damage. Meters are securely held in the meter compartments by individual elastic straps and each compartment is padded on all sides and bottom with special high-grade sponge rubber pads, held securely with pressed steel spot welded frames.

The lower compartments on both sides are equipped with bins for fittings of all sizes, tools, and miscellaneous equipment.

Standardization of the shell of this body with various meter capacity combinations and methods of carrying fittings, tools, and supplies has effected lower cost and quicker deliveries.

Allen Greiner, President of the American Coach and Body Co., Cleveland, Ohio, announces the purchase of the inventories, designs, manufacturing licenses under patent, tools, and machines of the Bird - White tower division of the Bird-White Co., Chicago, Ill. All operations will be moved to Cleveland, and the Bird-White tower will be known as the American Tower Lift. The American Coach & Body Co., will manufacture and sell this product through its usual channels, and in addition, anticipates using all of the existing Bird-White sales and service outlets.

C. G. Wood

Clarence G. Wood, former head of his own distributing organization handling machine tools and abrasive discs, has recently joined The American Coach and Body Co. as manager of sales promotion. He will establish an overall sales program and will handle the promotion of several lines, including the new American utility ladder and the American hydraulic tower lift.

Mr. Wood has had a long business career and a military career which was terminated recently. He was released from service in November 1945 and at that time began the organization of his distributing company.

Watson, Jr., Named IBM Vice-President

Directors of International Business Machines Corp., New York City, recently elected Thomas J. Watson, Jr., a vice-president of the company. He was previously assistant to the executive vice-president.

A graduate of Brown University, Mr. Watson joined IBM in 1937 in New York and in his first fourteen months as a senior sales representative twice qualified for membership in the company's sales honor organization, its Hundred Percent Club. He entered military service in 1940 and returned to IBM on January 1, 1946. He became assistant to the executive vice-president later in the same month.

APCO-V-APCO PRIMERS

AUTOMATIC POWER OR TANK PRIMERS

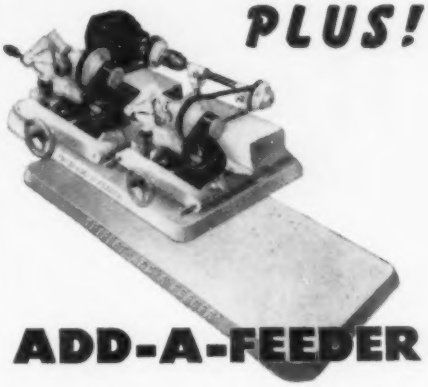
AIR RELEASE VALVES

FOR FILTER PIPE LINES DISTRIBUTION LINES AND OTHER USES 17 TYPES

VALVE AND PRIMER CORPORATION

Room 366—111 W. Washington St.
CHICAGO, ILL.

FOR Accurate Chemical Feeding PLUS!



ADD-A-FEEDER

VAR-I-FEEDER now does triple or double duty inexpensively by means of exclusive ADD-A-FEEDER. Each ADD-A-FEEDER is an individual VAR-I-FEEDER with rate-of-feed independent for each unit, and all power supplied by original motor. Thus, you can feed several chemicals simultaneously, or increase single chemical capacity.

If you expect to double or triple pumping requirements, or if you foresee the possibility of adding another chemical to the process, buy a Twin or Triplet ADD-A-FEEDER base when you purchase your original VAR-I-FEEDER. If you already have a VAR-I-FEEDER you need only buy the base plate and an ADD-A-FEEDER for your purpose.

Every ADD-A-FEEDER, of course, has the exclusive VAR-I-FEEDER features of hi-speed, tachometer counted injections and easy change-of-feed rate. A turn of the handwheel regulates feed without interrupting processing. In fact, ADD-A-FEEDER is VAR-I-FEEDER without the motor.

Send for booklets VARI and Photo #91.

VAR-I-FEEDER

For Accurate Chemical Feeding,
Chemical Water Treatment,
Chlorine Dioxide Process
For Taste and Odor Control

CHEMICAL FEEDERS DIVISION

MORSE BOULGER DESTRUCTOR COMPANY
Room 1700 F. 205 E. 42nd St.
NEW YORK 17, N. Y.

Representatives in all principal cities
Equipment Makers and Proportioning Engineers

For Quicker Trench Poured Joints

McWANE

B & S

WATER PIPE

The permanent, easy-to-lay cast iron pipe for trench-poured joints.

Use McWane pipe. Easy to cut . . . handle . . . tap . . . lay. Meets rigid Standard Class 150 Federal Specifications, 500-pound test.

For quick installations that hold construction costs to a minimum, use McWane B&S cast iron pipe All sizes from 2" thru 12".

ALL SIZES
2" thru 12"

McWANE CAST IRON PIPE CO.
Birmingham 2, Ala.

PROTECTING THE NATION'S RESERVOIRS!

Experts in metal fabrications since 1886

Stewart 3TH Non-Climbable Chain Link Wire Fence assures the utmost in protection for reservoirs and all other public property. Stewart products for protective purposes also include: Wire Window Guards, Wire Mesh Partitions and Steel Folding Gates. When writing for information please mention products in which you are especially interested.

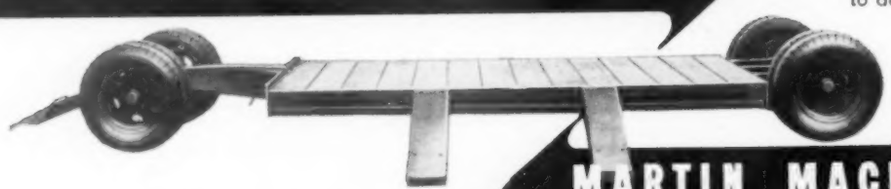
THE STEWART IRON WORKS CO., INC.
1321 Stewart Block Cincinnati 1, Ohio

Stewart IRON and WIRE FENCES

MARTIN CARRYHAUL TRAILERS
TRADE MARK REGISTERED

MARTIN CARRYHAUL TRAILERS
"Make Hauling A Pleasure!"

Ease of loading, dependability and economical operation are three Martin CARRYHAUL Trailer characteristics which make them the leaders in the field.
Regardless of your hauling job, there's a proper size Martin CARRYHAUL Trailer to do it for you safely and economically.



Your "CATERPILLAR" Dealer is your MARTIN Dealer. See him for your trailer needs.

MARTIN MACHINE COMPANY
KEWANEE, ILLINOIS

FORD TRUCKS LAST LONGER!

OVER 1 MILLION FORD V-8 TRUCKS IN USE TODAY!

Ford

New Equipment Uses War-Developed Methods

This diving apparatus, a wartime development, is designed to make the problem of cleaning municipal swimming pools much easier.

Pool cleaning equipment that proves to be radically new and revolutionary in many respects has been developed by the Diving Equipment and Supply Company of Milwaukee, Wis.

The equipment is consructed of molded rubber and equipped with a shatter-proof plastic face-piece of excellent optical qualities. According to the maker, it combines a number of safety and comfort features entirely new to this type of equipment.

The lightweight mask employed in this equipment is pressure sealed against the contours of the user's face. This is achieved by an inner flange which affords a perfect seal and does not allow air to escape. It also seals against water seepage. Any user of equipment with a faulty seal knows the discomfort as well as the reduced efficiency caused by reduced air volume. Particularly noteworthy is an adjustable exhaust valve, which the user can adjust to suit his particular need.

Change Fire Truck Tires Every Three or Four Years

"Retirement" of fire apparatus tires after three or four years in service, transferring them to slow-moving city trucks; such as, garbage trucks, or even selling them, was urged by J. E. Powers, truck and bus tire sales manager of the B. F. Goodrich Co., at the 24th annual conference of the New England Association of Fire Chief at Portsmouth, N. H.

"Tires in fire service, often kept in use for many years with little mileage, present a unique service problem," Powers said. Despite the fine wearing qualities of modern tires, they may sustain injuries in fire service, which, because of the limited usage of the tires, will not develop into noticeable tire damage for many months.

"Recently, I inspected several pieces of fire equipment where the original tires— still in apparently excellent condition—had been in service nine years and the total mileage run was but 8,200 miles." He contrasted this with a trucking operation between Phoenix, Arizona, and Los Angeles in which trucks average 450 miles a day, seven days a week.

Cunningham Establishes Accounting Office

Joseph M. Cunningham, CPA, formerly First Deputy Comptroller of the City of New York, announces the establishment of a public accounting office specializing in municipal audits, systems installation, and consultation.

The office will be known as J. M. Cunningham and Co., and will be located at 40 Wall St., New York 5, N. Y.

THE CALCIUM ROAD...

a Natural

for Low-Cost Federal-Aid Secondary Roads

You get the maximum mileage of road improvement that can be obtained from your appropriation. You use local materials—aggregates and binder soils and consolidate them with calcium chloride.

Initial costs are low—your budget provides more miles of improvement. Maintenance requirements reduced—road metal saved. Such roads are smooth, firm and dust-free. They are long lasting, all-weather roads that give good service all year 'round.

Materials and methods are explained in our booklet, "Surface Consolidation and Maintenance." It is sent on request.

CALCIUM CHLORIDE ASSOCIATION

4145 Penobscot Building • Detroit 26, Michigan

More Miles of Better Roads—

CALCIUM CHLORIDE

Consolidation

Invitation to go places...

It's the kind of road that motorists like to travel on a Sunday afternoon. It's quiet . . . and pretty . . . and agreeably free of traffic.

Yet half of America lives on roads like this . . . and *all* of America depends upon them for life and livelihood. Food from farm to city, manufactured goods from city to farm . . . all pass over America's 2,400,000 miles of secondary roads.

Unfortunately, not all of this vital farm-to-market network is as well paved as the road above. More than half is still unsurfaced, and over one-third is still classed as "primitive."

In the work that remains to be done, Barrett Tarvia* road tar will have an increasingly important part. The combination of Tarvia, local materials and local labor enables almost any community to build modern all-weather roads quickly and at low cost.

Why not discuss your own secondary road problems with the Tarvia field man?

ONE OF AMERICA'S GREAT BASIC BUSINESSES

THE BARRETT DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 RECTOR STREET, NEW YORK 6, N. Y.

New York • Chicago • Birmingham • St. Louis
Detroit • Philadelphia • Boston • Rochester
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Portland, Me. • Bangor, Me. • Norwood, N. Y.
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Norwich, Conn. • Savannah, Ga. • In Canada:
THE BARRETT CO. LTD.,
Montreal • Toronto
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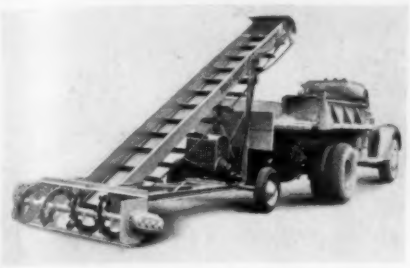
Barrett Tarvia*

*Reg. U. S. Pat. Off.

Pneu-Hydro Announces New Snow Loader



Pneu-Hydro's new Sno-Loder

A new low-cost snow loading machine, the Sno-Loder, has just been announced by Pneu-Hydro Road Machinery Co. of Cadillac, Michigan. In tests last winter on a typical city street, the loader filled 42 trucks in less than two hours, including time for trucks to swing into position and pull away. Actual loading time was one minute per truck.

The Sno-Loder is a rubber-tired mobile unit having a 6-ft. wide scoop with tooth-edged, formed-helix ice cutter and self-loading conveyor powered by a 15-hp engine. It is towed to and from jobs at unhampered truck speed. For snow loading, the scoop is dropped to the window and the unit is propelled evenly and steadily through backing action of the truck. Trucks are loaded evenly by a load distributor.

All controls are conveniently located on the truck driver's side and are handled easily by one man.

Alcoa to Build New Plant

Thomas D. Jolly, vice-president and chief engineer of the Aluminum Company of America, recently announced the company's plans for the construction of a large new plant near Davenport, Iowa, which is to cost more than $30,000,000. This plant will have the capacity to produce more than ten million pounds of sheet and plate per month when placed in operation. Construction is scheduled to begin as soon as the project has been approved by the Civilian Production Administration, and completion of the plant will require approximately 18 months.

The proposed plant will be able to make wider aluminum sheet than any other aluminum rolling mill in the world and its 43 acres of floor space will have equipment that will be able to process the largest aluminum ingots manufactured. The plant is also to be equipped to turn out sheet and plate of super-strong aluminum alloys and common commercial alloys.

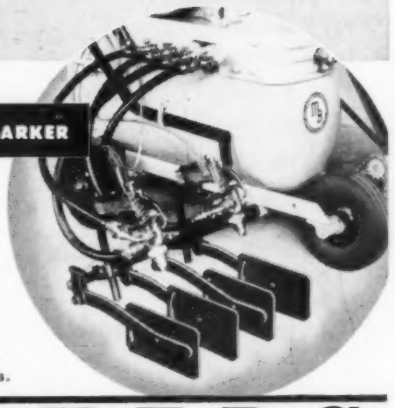
A few of the widespread uses to which this aluminum sheet and plate will be put include aluminum roofing and siding; wall panels for prefabricated houses; flashing, downspouts, gutters and similar applications.

Stripe Streets IN A *Jiffy!*

Replace slow, tedious hand marking methods with faster, more efficient machine striping. An M-B Marker simplifies the job. Used by municipalities everywhere. Promotes safety . . . Adds to efficiency . . . Puts striping on a fast, low-cost production basis. Handles ANY type of striping . . . is quickly convertible to all-purpose paint sprayer. Two types available — hand-propelled and self-propelled. Write for Bulletin #121.

THE "*Business End*" OF AN M-B MARKER

Atomizing spray guns apply spray of paint between adjustable line guards. Paint goes down evenly and smoothly with more lineage per gallon of paint. Control valves within easy reach of operator.



MEILI-BLUMBERG CORP.
Box AC-8 New Holstein, Wis.

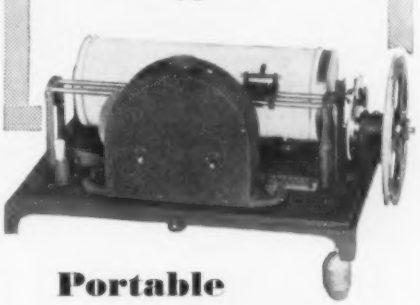
MARKERS

A 5021-½

L&S

STEVENS WATER LEVEL RECORDER

Type F



Portable
Inexpensive
Popular

The Stevens *Type F* Recorder is an inexpensive general utility recorder for daily or weekly service, unlimited in range. *Type F* is particularly suited for securing ground water levels in deep wells; for stream gaging, irrigation, domestic water supplies, sewerage; and for use with weirs, Parshall flumes, Venturi tubes, or any other type of measuring device in which heights, or the differences in heights, are an index of flow.

Type F has a removable chart drum; 8-day clock with abundant power; charts—both English and metric are available . . . Maybe this simple recorder is just what you need. Ask for Bulletin No. 24— and judge for yourself.

LEUPOLD & STEVENS INSTRUMENTS
Manufacturers since 1907
PORTLAND 13, OREGON
Hydrographic • Surveying • Navigation
Automatic Controls

Leupold & Stevens Instruments
4445 N. E. Glisan St., Portland 13, Oregon

Please send Bulletin No. 24 on the Stevens *Type F* Recorder.

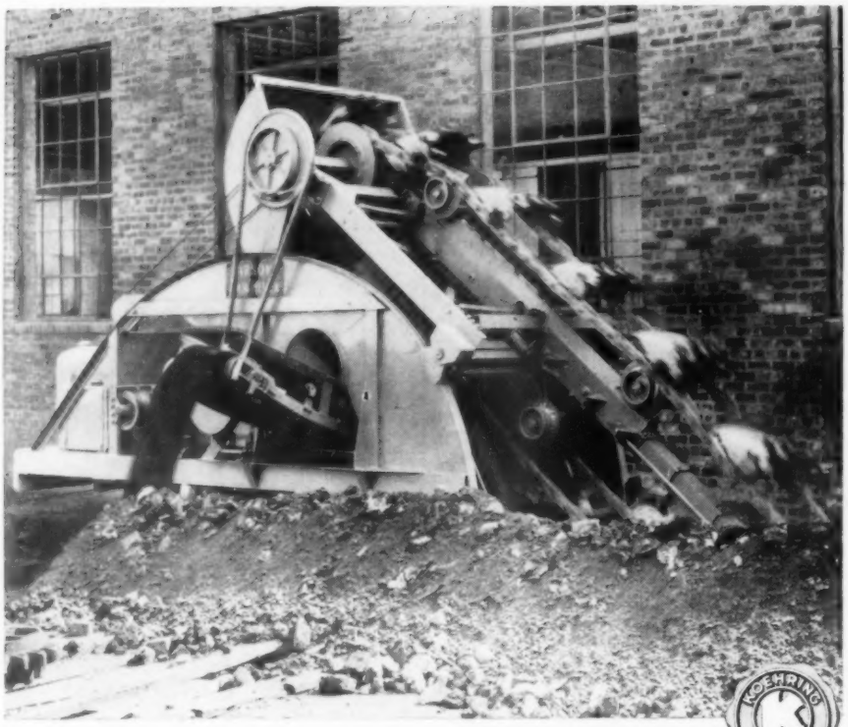
Name _____

Organization _____

Title _____

Street _____

City _____ *Zone* _____ *State* _____



PUBLIC SERVICE MODEL

The new Parsons 221 Trenchliner, public service model in the Parsons line of trenchers, sidesteps surface obstruction as close as 10" to either side of the projected trench. Boom shifts from side to side across entire width of boom carriage. Easy to shift, because it rides smoothly on big diameter rollers. Arc type spoil conveyor reaches up 6'9", easily dumps into 1½ ton trucks. Telescoping ladder type boom can dig over and under obstructing pipes in trench, virtually eliminating hand work.

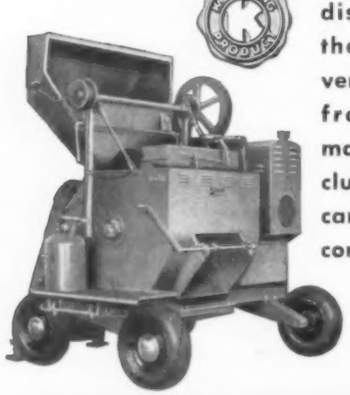
PARSONS COMPANY
Koehring Subsidiary
NEWTON, IOWA

IDEAL FOR CITY WORK . . .

221 PARSONS TRENCHLINER

KWIK-MIX BITUMINOUS NON-TILTING MIXER

● An End Discharge mixer for applying cold or hot laid bituminous mixtures to new surfaces for re-facing and for maintenance. The wide quick acting discharge gate of the non-tilting drum reduces the time between batches. This light weight, portable unit can be quickly spotted and because of the end discharge advantage, the mixer can be conveniently pulled away from the discharged material. Equipment includes two burners which can be easily removed for controlling temperatures.



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Write for Catalog BAC

•

KWIK-MIX COMPANY
KOEHRING SUBSIDIARY
PORT WASHINGTON • WISCONSIN

CUT MAINTENANCE COSTS 75%

Concrete slab maintenance costs can be reduced as much as 75% by the Koehring Mud-Jack Method. The Mud-Jack raises sunken concrete walks, curbs and gutters, driveways, streets, and airport runways eliminating reconstruction costs. Write for the free illustrated handbook "How to Detect and Correct Pavement Slab Pumping."

KOEHRING COMPANY,
Milwaukee, Wisconsin (10)

MUD-JACK METHOD

New Fire Engine Shows Improved Features

The new FWD F75T 750-gpm fire fighter.

Details of a new 750-gpm triple combination FWD fire fighter were released recently by the Four Wheel Drive Auto Co., Clintonville, Wis.

The F75T employs the FWD four-wheel-drive principle with a center differential. This gives the driver better steering control by reducing the tendency to skid. The powered front wheels pull in the direction steered, enabling the vehicle to take curves more safely.

When difficult operating conditions are encountered and traction is lost, a manually controlled lock eliminates the center differential action and provides positive drive to both front and rear axles. In rural fire fighting it can be driven across country, over plowed fields, through swamps, directly to a creek or lake or other water source.

Powered with a six-cylinder 190-bhp FWD engine, the model F75T has a piston displacement of 525 cubic inches and develops 410-foot pounds of torque. The wheelbase is 160 inches. It is equipped with an FWD centrifugal 750-gpm two-stage series parallel pump, which features large volume low pressure, and reduced volume high pressure performance controlled by means of a transfer valve.

The new open type all-steel body of 12-gage steel with hardwood slatted removable floor has a capacity of more than 1,200 feet of double-jacketed 2½-inch hose. The fire department-type ladders are mounted on FWD special ladder brackets which hold them securely in place, preventing shifting and eliminating all rattle.

The 150-gallon rust-resistant water tank is located in the hose body. Equipped with splash surge plates, the tank has a six-inch filler with sloping top forming a funnel for easy filling. The booster tank hose reel has a capacity of 200 feet of hose.

McBrien Joins Welsbach Corp.

Lt. Col. Joseph P. McBrien, Transportation Corps, has joined the engineering department of Welsbach Engineering and Management Corp., Philadelphia, Pa.

A graduate of Massachusetts Institute of Technology in civil and transportation engineering, Lt. Colonel McBrien was awarded the Legion of Merit during his army service, two years of which were spent as second in command in the Trinidad engineer district, building air bases in the British West Indies, Netherlands West Indies, and South America.

Prior to entering the army, Lt. Colonel McBrien was a public works consultant with Tax Foundation, Inc., New York City.

R. W. Cook Gets Sales Manager Post

The appointment of Ralph W. Cook as sales manager for Food Machinery Corporation's Bean-Cutler Division at San Jose, Calif., was announced by V. H. Matthews, divisional manager and a vice-president of the corporation. Mr. Cook succeeds W. E. Abilgaard.

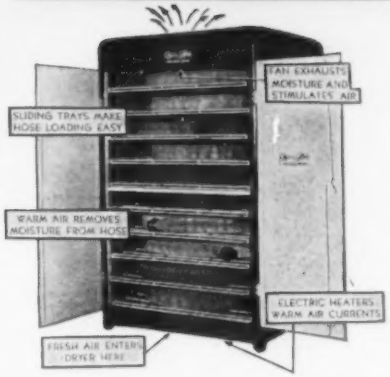
Ralph W. Cook

Mr. Cook joins the Bean-Cutler Division with a wide background in the Food Machinery Corp. agricultural field. Mr. Cook's initial experience with the company began with the Peerless Pump Division at Los Angeles, where he was active in both sales and engineering, pioneering their sales work in the Arizona irrigation development. He later joined the Texas branch of that division, and for several years supervised turbine pump sales out of Houston.

CIRCUL-AIR

FIRE HOSE DRYER

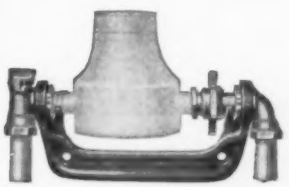
- Is easier to use
- Saves drying time
- Reduces hose stretch
- Prevents mildew and rot
- Improves building design
- Air-conditions as it dries


FAN EXHAUSTS MOISTURE AND STIMULATES AIR
SLIDING TRAYS MAKE HOSE LOADING EASY
WARM AIR REMOVES MOISTURE FROM HOSE
ELECTRIC HEATERS WARM AIR CURRENTS
FRESH AIR ENTERS DRYER HERE

The CIRCUL-*AIR* CORP.
575 E. Milwaukee Street
DETROIT 2 MICHIGAN

FORD YOKES

The original Yoke for water meters, developed and perfected for over 30 years. Hundreds of thousands are giving satisfaction in many hundreds of progressive waterworks.



Send for a catalog and learn how to make better water meter settings with the several styles of Ford Yokes.

FORD
Meter Box Co.,
WABASH, INDIANA

LIGHT DUTY... *But all Truck*

Yes, International Light-Duty Trucks are all-truck. They are designed as trucks, engineered and built as trucks. They're powered by the famous International Green Diamond engine. They make *no* compromise with passenger car construction.

A complete line permits International to recommend the best light-duty truck for any job—best for efficiency, lowest operating cost, longest life.

The name, International, is a warranty of truck quality. That name represents more than 40 years of truck engineering and manufacturing experience.

And here's an unusual record: For the last 15 years more heavy-duty International Trucks have served America's commercial truck transport than any other make.

And here's an unusual service feature—*all-truck* service supplied by the nation's largest company-owned truck service organization, International Branches, and by International Dealers.

For all-truck performance—*International!* For all-truck service—*International!* See your nearby Dealer or Branch.

Motor Truck Division
INTERNATIONAL HARVESTER COMPANY
180 North Michigan Avenue **Chicago 1, Illinois**

Tune in "Harvest of Stars" Sunday, 2 p.m. Eastern Daylight Time, NBC Network

Pickup

Panel Body

Panel Stake

Other International Harvester Products:
FARM POWER AND EQUIPMENT
INDUSTRIAL POWER • REFRIGERATION

Dump Truck

Multi-Stop Delivery

Tractor and Semi-Trailer

School Bus

INTERNATIONAL TRUCKS

War Chemical Whips Weeds, Saves Grass

Applying the potent new 2,4-D weed-killing spray to the turf of airports, public parks, recreational spots, and similar extensive grassy areas is accomplished efficiently and economically with the spray equipment pictured here.

A new weapon developed during the war is being put into action this year against the weed kingdom. It's a chemical spray with the formidable name 2, 4-dichlorophenoxyacetic acid, called 2, 4-D for short, one of the most effective weed killers yet devised, according to Dow Chemical Co., Midland, Mich.

One of the most efficient booms for applying the spray is a four-wheeled device built in three sections, with the two end-sections hinged to the center portion for flexibility of movement with the contour of the ground. Both end-sections are removable. Similar equipment which can be made with available materials in maintenance shops is being used with equally good results.

The new killing substance is one of the most potent of a group of chemicals that influence plant growth and behavior. Mixed with water in proper proportions, it enters the leaf and travels to other parts of the plant. Leaves and stems twist and curl, roots start to decay, and the plant finally dries up.

Fortunately, bluegrass and most other members of the grass family are not injured by 2,4-D, which makes it useful on lawns and other areas where you want grass and nothing but grass. Bent grass—the kind you see on golf course greens and some lawns—is an exception and should never be sprayed with 2,4-D.

Some 100-odd common weeds, including narrow and broad-leaved plantains, dandelion, bull thistle, burdock, nettle, wild carrot, hedge bindweed, cinquefoil, and honeysuckle are usually killed with one application. Other hard-to-kill weeds with extensive underground root systems may need two or more applications before they succumb. Among these are Canada thistle, field bindweed, goldenrod, milkweed, and poison ivy. Spray should be applied when plants are in an active growing condition.

Extreme care should be exercised as 2,4-D is fatal to a wide variety of vegetables, shrubs, flowers, and trees.

Berchem Named to New York APCO Post

A. H. E. Berchem, Berchem Co., 50 Church St., New York 7, N. Y., has been appointed representative of the Valve and Primer Corp., 111 West Washington St., Chicago 2, Ill., according to a recent announcement by W. C. Mason, manager. Mr. Berchem will represent the company in the New York City territory.

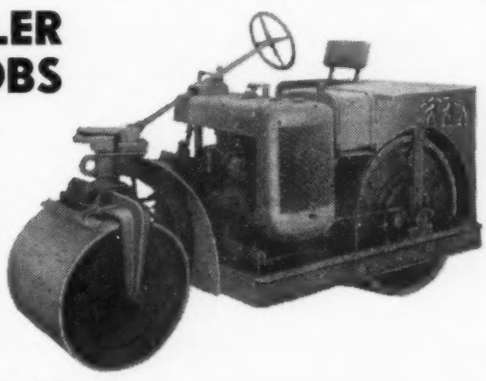
Williams Joins Clay Sewer Pipe Assn.

The Clay Sewer Pipe Assn., Inc., announces the addition to its technical staff of Mr. Frank M. Williams. Mr. Williams has been connected with the Ohio State Department of Highways since 1923 except for three years' service with the United States Signal Corps during which Mr. Williams saw active duty on Okinawa. At the time of his honorable discharge he carried the rank of captain. While employed by the Ohio State Department of Highways, Mr. Williams successively held the positions of rodman, instrument man, assistant engineer, project engineer, executive assistant to the highway director, and engineer of sales.

A TOUGH ROLLER FOR TOUGH JOBS

Pierce-Bear 3½-5 Tons, Variable Weights

Engineered for economical operation where the going is tough. Compact, easy to operate. Rear roller gives heavy duty compression. Built-in water tanks for wet rolling. Powered with Allis-Chalmers Industrial Heavy Duty Model "B" gasoline engine. Write for details.

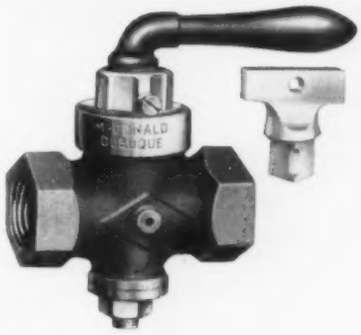


Manufactured by

LEWIS MANUFACTURING COMPANY

415-431 Hoefgen Ave. SAN ANTONIO 6, TEXAS Phone Garfield 6137 or 8931

FOR *highest* QUALITY



it's the Diamond Line . . .

The very highest quality in waterworks goods has been the standard for McDonald's well-known Diamond Line since 1856. Skillful application of the experience gained through the years has made this high standard possible. Illustrated is Plate E-2832, McDonald Diamond Patent Cap Stop and Stop and Drain. Flat way, high pressure, with malleable tee or lever handle, right or left. Sizes ½, ⅝, ¾, 1, and 1¼ inches. Write for information on all items in the Diamond Line.

EST. 1856 McDonald

A. Y. McDONALD MFG. CO.

DUBUQUE, IOWA

BRASS GOODS • PUMPS • OIL EQUIPMENT

Planning Improvement in your
WATER DISTRIBUTION SYSTEM?

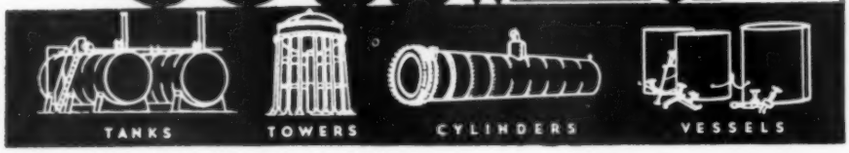
Then it will pay you to investigate Cole elevated tanks, which have been satisfactorily assuring an adequate supply to American cities for over 75 years.

Capacities 5,000 to 2,000,000 gallons with hemispherical, ellipsoidal or conical bottoms. Also, flat tanks for storage of butane or propane gas. Correctly built, in accordance with ASME specifications.

Cole elevated tanks are helping to provide uniform water pressure, fire protection and adequate water reserve in Charlotte, Mobile, Daytona Beach, Spartanburg, St. Petersburg, Gastonia and scores of other American cities.

We invite your inquiries. State capacity, height to bottom and location.

R.D. COLE MFG. CO. ESTABLISHED 1854
Newnan Ga.



Mobile Telephone Service Along Three More Highways

The Bell System highway mobile radiotelephone enables the driver to call or receive calls from any telephone connected with Bell System lines.

Three more inter-city highways totalling over 800 miles in length have been added to the two previously announced routes on which the Bell System plans to provide mobile radiotelephone service to vehicles, according to the American Telephone and Telegraph Co., 195 Broadway, New York.

The American Telephone and Telegraph Co. announced recently that applications have been made to the Federal Communications Commission for authority to construct transmitter-receivers along the highways between Washington and New York; Buffalo and New York, via Albany; and Los Angeles and San Diego. Permits to build transmitters and receivers for highway mobile radiotelephone service between New York and Boston, and between Chicago and St. Louis already have been granted and construction of those stations is under way.

Automatic Gasoline Car Heater

A new type of gasoline heater has been announced by Galvin Manufacturing Corp., 4545 Augusta Blvd., Chicago 51, Ill., makers of Motorola radios for home and car. E. H. Wavering, vice-president and head of the new Car Heater Department, stated that the new heater will represent a drastic departure from current auto heater design, and in fact embodies many engineering features never before used in car heating.

This new automatic push-button car heater is the result of over seven years of research and developmental activity. It will be marketed through present Motorola distributors, but will be manufactured at a separate five-story plant in Chicago. Manufacture and distribution will be handled by a completely separate department.

The new heater was fully tested by actual application. The heater in principle was used extensively by the armed forces during the war for heating trailers and Quonset huts and for pre-heating airplane and tank engines in the Aleutians and sub-zero fighting.

Russell B. Moore Now Called Moore and Owen

Looking at a portion of the Moore and Owen laboratory facilities. The complete laboratory has three rooms and is equipped to make thorough analyses of sewage, water, and garbage.

The Indianapolis, Ind, consulting firm of Russell B. Moore is now called Moore and Owen. Russell B. Moore has designed many important sanitation projects throughout the middlewest including the sewage treatment plants at Anderson, Ind., and at East Chicago, Ill. Mark B. Owen who joined the firm last fall and now is a partner in the organization, has had a great deal of experience in municipal public works. After holding the position of Director of Public Works of Dearborn, Mich., he came to New York and joined an organization which distributed incinerators. Later he was retained by the American Society of Civil Engineers to head a committee making a study of post-war planning projects.

The firm of Moore and Owen has been retained by the Indianapolis Board of Public Works and Sanitation to make a complete survey and prepare designs for the modernization and enlargement of the Indianapolis Sewage Treatment plant which may cost in the neighborhood of $3,000,000. Other assignments include new sewers and sewage treatment plants for Tell City, Crown Point, Mooresville, and both water and sewerage projects for Greencastle, Thorntown and Lebanon, all in Indiana.

The company also is offering a complete laboratory service to engineers and municipalities. The services are designed particularly for the smaller municipalities that now have sewage and water treatment facilities but do not have laboratory facilities.

Improved Electrode a Welding Aid

A new extrusion-coated self-hardening electrode is now available through authorized Airco dealers. Manufactured by the Stoody Co., Whittier, Calif., this versatile electrode has excellent arc characteristics, working equally well with an AC or DC machine. The extruded coating is much stronger, has less tendency to pick up moisture, presents a better appearance, and is completely uniform.

Applications of the new Stoody self-hardening electrode include hard-facing in building up worn areas of tractor lugs, shovel teeth, manganese steel crushing equipment, clutches, bulldozer blades and various other equipment.

Because the analysis of the new coated Stoody self-hardening electrode remains unchanged, its physical properties and deposits are the same as those of the dipped coating electrode. Its resistance to impact and abrasion is still excellent.

The Air Reduction Sales Co., 60 E. 42nd St., New York 17, N. Y., states that it, or any Airco dealer, will furnish additional information concerning this new development.

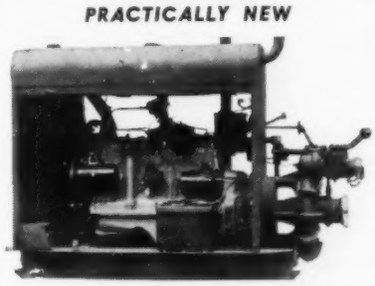
Gar Wood Acquires Bendix War Plant

Gar Wood Industries, Inc., recently purchased from the War Assets Administration the former Bendix plant in Wayne, Mich., according to an announcement by John J. Bergen, chairman, and Charles W. Perelle, president.

Gar Wood will manufacture in its new plant hydraulic hoists, steel bodies, winches, cranes, and derricks for motor trucks, hydraulic systems and attachments for bulldozers, scrapers and other tractor equipment as well as various types of oil-burning equipment.

HIGH PRESSURE ALL PURPOSE PUMP

PRACTICALLY NEW



Big heavy duty Chrysler gasoline Engine driven centrifugal pump. 500 G. P. M. at 120 lbs. pressure or 250 G. P. M. at 200 lbs. pressure. Equipped with self starter—skid mounted—self priming. Rugged unit ideal for water supply—fire fighting—booster service! *Same unit also comes mounted on 2 wheel Pneumatic-tired, spring-mounted carry all trailer with ball and socket towbar, rear reflectors and parking brakes. Net weight approximately 2500 lbs. 11 foot 7 inches long x 79 inches wide x 70 inches high.*

Also Available FRONT MOUNT PUMP
For mounting on '38, '39, '41 Fords; '38, '39 Chev.;, and '40 Intl. trucks. Complete with adapter bracket and accessories.

Write or Phone for Further Information

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De Laval Labyrinth Rings minimize leakage from discharge back to suction. The sealing action of these rings is accomplished by the use of large clearance, tortuous labyrinth passages and does not depend upon close mechanical clearances, such as required for plain flat rings. Because of the larger clearances and reduced flow, the effectiveness of the De Laval labyrinth ring is but little diminished by wear, resulting in sustained efficiency for long periods. When selecting pumps for lowest ultimate cost, look for the De Laval Labyrinth Wearing Ring. 3237

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TRENTON 2, NEW JERSEY

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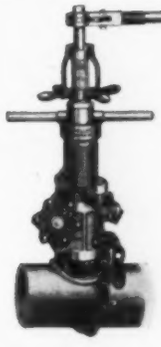

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3500 gallon capacity Heil streamlined flusher tank

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Heil Street Flushers are built by the same experienced organization that has led the field in fabricating transportation tanks for all types of service since 1901.

You can recommend these Street Flushers because they have been carefully engineered and ruggedly built for dependable service and economical operation. The penetrating force of the spray cleans pavements thoroughly, and the effective area can be controlled to widths of 16 to 42 feet by the use of one, two, or three brass flushing nozzles. You save water — you save power. Write for descriptive bulletin TT639. It tells you about the outstanding features of Heil Street Flushers.

Thorough flushing action

800 gallon Heil Street Flusher

1800 gallon Heil Street Flusher

T-139

ARMY NAVY

THE HEIL CO.

GENERAL OFFICES • MILWAUKEE 1, WISCONSIN

New Aluminum Roll-Up Awning

This new automatic awning rolls up into a neat compact roll at the top of the window and provides protection and controlled light.

An automatic aluminum awning for municipal or industrial plants that rolls up into a neat compact roll at the top of the window, has just been announced by Aluminum Awning Co., Division of Orchard Bros., Inc., 456 Meadow Rd., Rutherford, N. J.

The "Alumaroll" made of 100% noncorrosive aluminum, has the advantage of not sagging, shrinking, or stretching, according to the manufacturer. It is finished in a protective coat of baked aluminum enamel and is available in a range of colors. The awnings are said to be free from fading, ripping, and mildewing. They will not chip, rust, or rattle; are completely fireproof and will provide full ventilation as well as any degree of shade. They are simple to operate, and roll up smoothly and easily.

Adaptable to municipal and industrial plant windows, loading platforms, executive offices, and laboratories, it is emphasized that these awnings provide adequate protection from sunlight and weather, assuring, in addition, high returns in worker comfort and personnel efficiency, as well as substantial savings in plant operating cost.

Welp Gets Graver Post

The Graver Tank & Mfg. Co., Inc., of East Chicago, Ind., recently announced the appointment of Edward W. Welp to the position of sales manager of water conditioning equipment. Mr. Welp, former technical director of Graver's process equipment division, has spent 32 years with the firm in every phase of research, design, and construction of water conditioning equipment.

E. W. Welp

Microstat Corp. Offers Protection for City Records

Storing Microstat records in a safe deposit vault.

Microfilm Protective Service, known as the MPS plan, is a copyrighted method of providing protection for important city records. By microfilming and duplication of vital records such as land maps, sewer and water maps, deeds, abstracts of title, birth certificates and the like, the city is insured against loss.

The actual protection and return of all vital records is achieved under the MPS plan. The plan is covered by an insurance policy, written without co-insurance or subrogation clauses, guaranteeing that in the event the original records are lost or destroyed from any cause whatsoever, a sufficient amount will be paid to develop facsimiles for the municipal officials within a few days.

Under the MPS plan every item, after microfilming, can be found through a convenient cross-reference index which includes the volume and page as recorded in the land records in the city or town clerk's office, and shows the last assessment against the property. The plan further provides that a quarterly or semi-annual transcript or resumé of all changes will be made and added to the duplicate films, and that in the event the property owner requires any documents lost by the city, such documents will be reproduced without expense to the property owner or the municipality.

Microfilming by Microstat effects a 98% diminution and is subjected to a 15-point inspection program to guarantee reproductions and conform to United States National Bureau of Standards requirements.

Under present conditions if a city or town carrying no insurance on irreplaceable records keeps its books correctly, it is necessary to set up and carry on the books at all times, as a contingent liability, a sum equal to the sum required to reconstruct vital records. However, under the MPS plan, this responsibility is eliminated.

After the initial duplication, for which the taxpayer must pay a charge of 50c, only 25c a year is added to the bill. For this small charge the property owner receives invaluable service. His deed, abstract of title, last paid tax bill, previous year's assessment, birth and marriage certificates, discharge papers, and all other vital records are protected and will be available at any time should be originals be lost.

L. WALTER LISSBERGER, Pres.
Microstat Corp. of New England
Norwalk, Conn.

Clayton Appoints New District Manager

J. R. ("Bob") Carpenter is the new district manager of northern California, Nevada, and Utah for the Clayton Valve Mfg. Co., according to H. B. Pearce, Western sales manager.

Bob Carpenter

Bob Carpenter has been with the Clayton Mfg. Co. for seven years, serving as a member of the valve experimental research department. He will have his offices in the Flat Iron Building, San Francisco, Calif.

Also announced was the appointment of Edward J. Baker as district manager in the Great Lakes area with offices in Detroit.

Fairbanks, Morse Announce Personnel Changes

A. E. Ashcraft, who has for many years been vice-president in charge of manufacturing, has recently retired from Fairbanks, Morse & Co., 600 S. Michigan Ave., Chicago, Ill. This was announced by Col. R. H. Morse, president of the company. Mr. Ashcraft continues to be a director. C. H. Morse, III, vice-president, has been placed in charge of all manufacturing plants and operations.

Henry M. Haase has been appointed manager of the Beloit, Wis., works of the company, following the resignation of A. C. Howard.

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Street Sweeper
WIRE

High Scleroscope Rating
Uniform temper.

Specially processed for high fatigue — against breakage. Long wearing. Conveniently cut and delivered in 100 and 200 lb. boxes. Prompt shipment from stock of all standard sizes.

This gutter broom wire will prove an economy in your service.

"MORE MILES PER BRUSH"

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UNDERGROUND LEAKS
without any digging . . .
WITH A
GEOPHONE
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The original leak locator of the Geophone type

Placed in contact with the earth, the GEOPHONE accurately detects, by sound, the position of leaks in underground water or steam pipes.

Leaks are too costly to be ignored. A pin-point size leak wastes 65,000 gallons of water annually!

A GEOPHONE saves the cost of locating leaks—saves the costs of surveys, excavating, replacing. A big paying investment for water, sewerage and Public Works Departments; for any plant with underground water or steam pipes.

Outfit complete with two GEOPHONES, connecting tubes, earphones, in heavy leather carrying case with shoulder straps. ...$75

Write at once to

Globe Phone Mfg. Corp.
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Manufacturers of the Geophone Since 1918

Fitting Chemical Feeders to Municipal Service

This Pulsafeeder can care for municipalities' chemical supplies as high as 500,000 gallons per day.

The small chemical feeder can serve the municipality through at least seven different channels, Lapp Process Equipment Division points out in a recent bulletin. These include sterilization, swimming pool treatment, boiler water treatment, water corrosion control, general water treatment, special water treatment, and sewage treatment.

For water sterilization, the small Pulsafeeder can care of municipal supplies as high as 500,000 gallons per day. In larger cities' supplies these proportioning pumps are used as emergency units to supplement gas chlorination. For swimming pool treatment the Pulsafeeder provides sterilization, coagulation and alkalinity to meet all federal and state regulations. Regarding boiler feed water, the Pulsafeeder is widely used for phosphate and caustic treatment of water. The elimination of precipitation of lime in water high in bicarbonate, red water trouble and scale caused by iron is effected by Pulsafeeder proportioning of sodium hexametaphosphate in small residuals. And in small sewage treatment plants chlorination of the sewage for odor control and disinfection is accomplished by feeding hypochlorite with a Pulsafeeder. In larger plants the feeder is used to handle ferrous or ferric chlorides in connection with vacuum filtration.

Bulletins by the Lapp Process Division of the Lapp Insulator Co., Le Roy, N. Y., give complete details about the Pulsafeeder.

Base Opens Office for Administrative Surveys

Joseph F. Base, administrative analyst, has just opened a consulting office to serve the municipal and industrial fields. Mr. Base will specialize in administrative surveys, public works programs, special investigations and reports, job analysis and classification, job descriptions, and salary and wage schedules. His office will be located at 1931 Tyrone Avenue, Van Nuys, California.

Bert Dingley Retiring as Marmon-Herrington President

A. W. Herrington, chairman of the board of directors of Marmon-Herrington Company, Inc., Indianapolis, Ind., announces that Bert Dingley is retiring as president of the company. He is to be succeeded by David M. Klausmeyer, who has resigned as plant manager of Chevrolet Commercial Body Division of General Motors Corp. to join Marmon-Herrington.

Mr. Dingley joined Marmon-Herrington in January 1932 as vice-president, just a few months after the company was founded. This position he held until August 1942, when he was elected president of the company. During this period Marmon-Herrington grew from a small, specialized concern into a large, diversified mass-producer of vehicles for virtually every trucking, delivery, and transportation need.

Mr. Klausmeyer was first employed by Chevrolet as a designer of truck bodies. His first assignment was with one of their suppliers, the Hercules body plant, Evansville, Ind. After six years, he was made assistant chief engineer in the Chevrolet Commercial Body Division, Indianapolis, and two years later was advanced to chief engineer. For the last eleven years he was plant manager of that division.

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New Commercial Power-Driven Lawn Mower

The Kleen-Kutter power-driven lawn mower cuts anything from grass to heavy weed growth flush to fences, buildings, and trees.

Power Development Co., 6719 Denison Ave., Cleveland 2, Ohio, announces a new commercial-type power-driven lawn mower called the Kleen-Kutter, which incorporates many new and attractive features. Mobile and easy to handle, it will cut anything from grass to heavy weed growth flush to fences, buildings, and trees. It can be set at cutting heights from ½ to 3½ inches, leaving lawns "parklike" in appearance, free from windrows or unsightly buck thorn or dandelion stems.

The method of setting the cutting heights is an important feature because only a few minutes are required to make setting changes and the operation can be done with two ordinary wrenches. Power for both the blades and wheel traction is furnished by the same motor.

Whirling blades provide a rotary motion parallel with the ground. The speed of this motion, which is 3,600 cutting strokes per minute, creates a suction which makes grass and weeds stand upright, so that everything in the path of the blades is cut close to its base. The low platform construction of the unit permits it to cut under hedges and shrubs without endangering their center trunks.

The Kleen-Kutter is a complete unit in itself, no special attachments are necessary to make it perform all of the operations. It has a four-cycle engine with an automatic governor which is first set by hand control, thus eliminating the usually difficult throttle "play." The motor will automatically increase its power under cutting stress and decrease its power when the cutting pull is eliminated. In short, an even walking speed is maintained.

New Consultant on Urban Development and Planning

F. Dodd McHugh, formerly city planning director in New York, has resigned to open an office at 23 East 26th St., New York 10, N. Y., as consultant on urban redevelopment and community, city, and regional planning.

Mr. McHugh has been with the New York City Planning Commission since its inception in 1938. For the last five years he directed the master plan division which prepares features of the master plan for public hearing and adoption by the Commission, and reports upon matters relating to the plan that are referred to the Commission, including redevelopment schemes and large scale projects. As technical director he was in charge of program and direction of comprehensive and community studies for the Mayor's Committee on City Planning (New York 1934-38).

Mr. McHugh is a registered architect (formerly with York & Sawyer, New York City) and has served as consultant to international and regional agencies as well as local civic groups on planning and zoning.

Pennsalt Builds First DDT Plant in West

The first plant for producing technical DDT in the far west will be built at Portland by the Pennsylvania Salt Mfg. Co. of Washington.

It will be the third unit producing technical DDT in Pennsalt's nationwide chemical manufacturing facilities and will be installed in conjunction with the new $1,000,000 caustic soda and chlorine plant now under construction on the Williamette River in this city.

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types and sizes in
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with "GUNITE" lining placed over the original lining.

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Our 72-page bulletin, D2300 describes many reservoir jobs and scores of other uses of "GUNITE."

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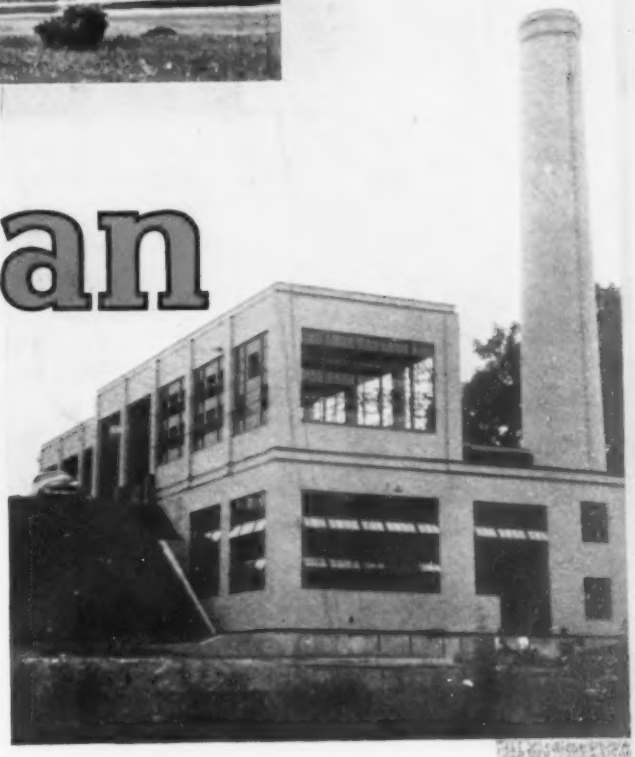
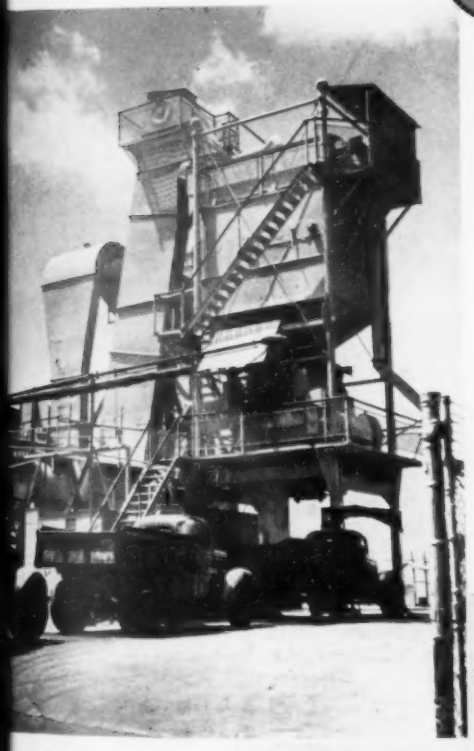
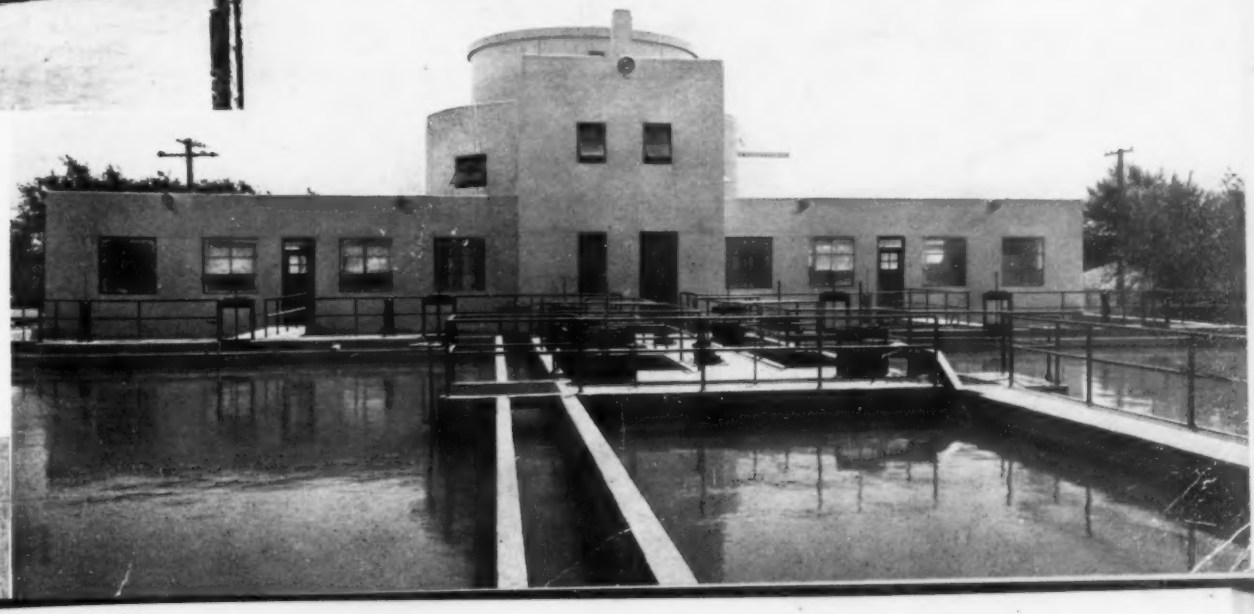




Not cost alone, but service in relation to cost, is the test of well-planned municipal improvements

op to bottom
building, sewage
ent works,
on, Ind.

pal incinerator,
ville, Md.

pal asphalt plant,
is, Mo.

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